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# THE NIAGARA ESCARPMENT STUDY









L-13 report Niagara escarpment study conservation and recreation  
Brock's Monument — Start of Bruce Trail





NIAGARA ESCARPMENT STUDY  
CONSERVATION AND RECREATION REPORT

JUNE, 1968

Niagara Escarpment Study Group  
Regional Development Branch  
Treasury Department - Finance & Economics  
950 Yonge Street  
Toronto 5, Ontario.







ONTARIO

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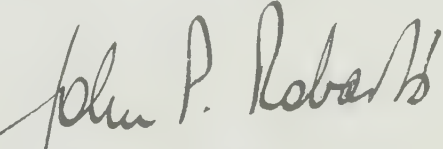
THE PRIME MINISTER AND PRESIDENT OF THE COUNCIL

One of the great natural features of Ontario is the Escarpment, stretching from Niagara to Tobermory. For generations this beautiful area has provided enjoyment and recreation for our own citizens and for people from many other parts. Simultaneously it has been a productive source of minerals and employment. Recognizing its importance and the need to preserve it for future benefit, the Government commissioned a study of the entire Niagara Escarpment.

Professor Leonard O. Gertler of the University of Waterloo agreed to direct the study. He and the people who worked with him are to be congratulated on a splendid job. The Niagara Escarpment Study Conservation and Recreation Report is the product of a major part of their work. The widespread interest in the Escarpment has convinced us of the value of making this study public. The Report is presented in an edited and slightly condensed form, since small portions of it and some of the maps could not, for various reasons, be made generally available at this time. The editing has been kept to a minimum and no part of the Report has been rewritten.

While we welcome the Report, I should make it clear that its release does not imply Government acceptance of the recommendations. The decisions regarding implementation will have to be taken in the light of a wide range of factors and in concert with consideration of other program priorities of the Government.

It is my hope that the "Gertler Report" will serve as a source of information and guide in future discussions and decisions regarding the future of this important natural resource, the Niagara Escarpment.

  
John P. Robarts.

October, 1969.







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DEPARTMENT OF TREASURY AND ECONOMICS

PARLIAMENT BUILDINGS

TORONTO

June 11, 1968.

Mr. H. I. Macdonald  
Deputy Provincial Treasurer  
Treasury Department - Finance & Economics  
6th Floor South, Frost Building  
Queen's Park  
Toronto, Ontario.

Dear Mr. Macdonald,

I take pleasure in submitting this Report on the Conservation and Recreation phase of the Niagara Escarpment Study.

It is the product of a research group of planners and geographers working within the Regional Development Branch, Treasury Department, Finance and Economics.

Throughout the course of the Study the research group has enjoyed the benefit of counsel and material help of the Sub-Committee on the Niagara Escarpment, the Interdepartmental body under the Chairmanship of Dr. R.S. Thoman, Director, Regional Development Branch.

The findings of the study are respectfully submitted for your consideration.

Yours sincerely,

A handwritten signature in cursive script, reading "L. O. Gertler".

L. O. Gertler  
Coordinator  
Niagara Escarpment Study.





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## TABLE OF CONTENTS

	Page
LIST OF ILLUSTRATIONS AND DIAGRAMS.....	vii
LIST OF TABLES.....	viii
LIST OF PHOTOGRAPHS.....	ix
CHAPTER 1	
INTRODUCTION.....	1
CHAPTER 2	
RECOMMENDATIONS.....	3
1. The Study and Administrative Area.....	3
2. Proposals by Sections and Areas.....	3
3. The Different Means of Preservation.....	3
4. Priorities.....	3
5. Lands Delineated, by Sections - Cost and Level of Control.....	4
6. Priorities - Land and Cost.....	4
7. The Niagara Escarpment as a Park System.....	5
8. The Dundas Valley and the Dundas By-Pass.....	6
9. The Extractive Industry.....	6
10. Administration.....	7
11. Provincial Regulation.....	7
12. Finance.....	8
CHAPTER 3	
THE STRATEGY OF THE STUDY	
3.1 The Study Area.....	10
3.2 The Niagara Escarpment and the Rising Demand for Outdoor Recreation Space.....	12
3.3 The Extractive Industry and the Principle of Multiple Resource Use.....	12
3.4 The Scope and Method of the Study.....	13

	Page
CHAPTER 4	
SELECTION OF ESCARPMENT LANDS FOR PRESERVATION.....	22
4.1 Sections and Areas.....	22
4.2 Criteria for Selection.....	23
4.3 Levels of Control.....	24
4.4 Priorities.....	24
4.5 Escarpment Lands Selected.....	26
4.6 Summary.....	47
CHAPTER 5	
THE NIAGARA ESCARPMENT AS A PARK SYSTEM.....	48
5.1 The Park System Concept.....	48
5.2 The Proposals by Area as a Park Network.....	48
5.3 Linking the Park System.....	50
5.4 The Emerging Park Concept.....	53
5.5 Conclusion.....	55
CHAPTER 6	
IMPLEMENTING AN ESCARPMENT PROGRAMME.....	56
6.1 Lands Delineated.....	56
6.2 Some Specific Issues.....	59
6.3 Proposals, Extractive Industry.....	60
6.4 Approaches to an Administrative Solution.....	65
6.5 Three Provincial Initiatives.....	69
APPENDIX 1	
INTERVIEWS CONDUCTED.....	71



	Page
APPENDIX 2	
REVIEW OF LEGISLATION RELATING TO LAND USE REGULATION AND ACQUISITION.....	76
APPENDIX 3	
CONSERVATION AND SCENIC EASEMENTS.....	84
APPENDIX 4	
PROPOSALS FOR AN ENACTMENT TO REGULATE SURFACE MINING IN THE NIAGARA ESCARPMENT AREA.....	88
LIST OF REFERENCES.....	94

## LIST OF ILLUSTRATIONS AND DIAGRAMS

	Page
CHAPTER 3	
PRINCIPAL URBAN AREAS AND SUMMER AVERAGE DAILY TRAFFIC ON PRINCIPAL HIGHWAYS.....Facing...	12
CHAPTER 4	
SECTIONS AND AREAS MAP.....Facing...	22
POTENTIAL ATTRACTION RATING.....	28
CHAPTER 6	
USE OF OVERBURDEN.....	61
SITE SCREENING PROGRAMME.....	62
SITE CONSIDERATIONS FOR LOCATING THE PROCESSING PLANTS (I).....	63
SITE CONSIDERATIONS FOR LOCATING THE PROCESSING PLANTS (II).....	64
APPENDIX 4	
STUDY AREA EXTRACTIVE ZONES.....Facing...	93
SMALL SCALE MAPS	
1     PRESERVATION PROPOSALS FOR AREAS OF NATURAL BEAUTY AND RECREATIONAL CAPABILITY - LEVELS OF CONTROL	
2     A CONCEPT OF A NIAGARA ESCARPMENT PARKS SYSTEM	



# LIST OF TABLES

Table		Page
3(1)	RECORDED LAND SALES DATA - SECTION 1.....	21
4(1)	REFERENCE NUMBERS AND NAMES OF SECTIONS AND AREAS.....	22
4(2)	ACCESSIBILITY RATINGS.....	25
4(3)	POTENTIAL ATTRACTION RATING.....	27
4(4)	POTENTIAL ATTRACTION/ACCESSIBILITY RATING.....	27
4(5)	RANKING OF SECTIONS BY NUMBER OF DWELLING UNITS FOR WHICH PERMITS WERE ISSUED AND BY NUMBER OF SUBDIVISION APPLICATIONS RECEIVED IN 1966.....	30
6(1)	SUMMARY OF ACREAGE AND COST OF ACQUISITION ACCORDING TO PRIORITY AND LEVEL OF CONTROL.....	57
6(2)	NIAGARA ESCARPMENT PROGRAMME - FUNCTIONS AND AGENCIES.....	66

# LIST OF PHOTOGRAPHS

SCOTTS FALLS, NOTTAWASAGA VALLEY	FRONT COVER	
KOLAPORE UPLANDS ON BRUCE TRAIL	BACK COVER	
BROCKS MONUMENT - START OF BRUCE TRAIL	FRONTISPIECE	
OLD CORDUROY ROAD - BRUCE PENINSULA	FACING PAGE	13
SKINNER BLUFFS - BRUCE PENINSULA	FACING PAGE	14
BRUCE TRAIL WALKERS AND MARKERS	FACING PAGE	15
WAVE-SCULPTURED ROCK FORMATION	FACING PAGE	16
SOLUTION CAVITIES IN DOLOMITE - LAKE GEORGE	FACING PAGE	17
ROCKWAY FALLS	FACING PAGE	31
NORTHWEST FROM THE ESCARPMENT NEAR GRIMSBY	FACING PAGE	32
MOUNT NEMO FROM RATTLESNAKE POINT	FACING PAGE	35
BRUCE TRAIL IN RATTLESNAKE POINT CONSERVATION AREA	FACING PAGE	36
FALLS AND OLD HYDRO GENERATING STATION AT CATARACT	FACING PAGE	39
CREDIT RIVER	FACING PAGE	40
ESCARPMENT TOPOGRAPHY NEAR MONO CENTRE	FACING PAGE	41
SCOTTS FALLS - NOTTAWASAGA RIVER	FACING PAGE	42
KIMBERLY ROCK AND ADJACENT SKI LODGE - BEAVER VALLEY	FACING PAGE	43
NATURE CONSERVANCY OF CANADA FOREST NEAR WALTERS FALLS	FACING PAGE	44
INGLIS FALLS NEAR OWEN SOUND	FACING PAGE	45
COLPOYS BAY FROM SKINNER BLUFFS EAST OF WIARTON	FACING PAGE	46
GLEASON BROOK AT OXENDEN	FACING PAGE	47
SYDNEY BAY - CAPE CROKER INDIAN RESERVE	FACING PAGE	48
CHANNEL FROM LAGOON THROUGH BAYMOUTH BAR, BARROW BAY	FACING PAGE	49
GREIG'S CAVES NEAR BARROW BAY	FACING PAGE	50
ESCARPMENT CLIFFS - LIONS HEAD	FACING PAGE	51
DYER BAY	FACING PAGE	52
MIDDLE BLUFF FROM ACROSS WINGFIELD BASIN	FACING PAGE	53
OLD SCHOONER AND WEST BLUFF - WINGFIELD BASIN	FACING PAGE	54
TOBERMORY	FACING PAGE	55
DOLOMITE QUARRY IN THE ESCARPMENT FACE NORTH OF MILTON	FACING PAGE	68

(All photographs taken by the Escarpment Study Group)





CHAPTER 1  
INTRODUCTION

On March 10, 1967, The Honourable John Robarts, Prime Minister of Ontario announced "a wide-ranging study of the Niagara Escarpment with a view to preserving its entire length," and referred it to the Cabinet Committee on Regional Development for follow-up and action. In the announcement reference was made to a growing public concern over the future use of the escarpment for recreation in the face of increasing urban pressure on the escarpment and the continuation of quarrying operations.

The Prime Minister commented more specifically on the escarpment study on June 28, when he announced the establishment of a professional group to undertake the necessary research and "coordinate all of the work relating to the Escarpment." Subsequently, an inter-departmental group (the Sub-Committee on the Niagara Escarpment) was constituted to work with the Study Coordinator, and terms of reference were endorsed by the committee of senior officials, advisory to the Cabinet Committee on Regional Development. The terms of reference established for the Study are, as follows:

1. To delineate the area of the Niagara Escarpment including related land which should be preserved as a permanent feature of the Ontario landscape and for recreational purposes.
2. To delineate, in addition, the area of the Niagara region which should be reserved for agricultural purposes.
3. To determine the present land use of the Escarpment area, particularly with a view to:
  - (a) identifying economic activities on the Escarpment, e.g., quarrying
  - (b) identifying activities which are incompatible with its preservation for landscape and recreational purposes
  - (c) identifying established park and recreation activities in the Escarpment area



4. To determine the present land use of the fruit belt area in the Niagara region, particularly with a view to establishing the extent of non-agricultural development in the area.
5. To establish priorities for the preservation of the escarpment for landscape and recreational purposes; and in addition, for agricultural and other industrial purposes in the Niagara region.
6. To work out the ways and means of preserving the Niagara Escarpment and related lands and the Niagara Fruit Belt, giving consideration to the acquisition of land, the regulation of its use, other control devices, and legislative and administrative requirements.
7. To collate essential data on land ownership and market prices in the Niagara Escarpment area.
8. To consider and recommend the further studies that may be necessary to make the preservation programme effective e.g., the economics of farming in the fruit belt and basic changes in structure of agriculture required for its viability and survival.
9. To ascertain the impact on the fruit belt of current and future programmes of provincial departments.
10. To coordinate the interests and efforts of the various departments concerned with the Niagara Escarpment, the Niagara Fruit Belt, through the sub-Committee on the Niagara Escarpment.

This report is concerned exclusively with the Escarpment aspects of the foregoing.

The keynote of the Niagara Escarpment Study has been the protection of the land. Accordingly, the Study has been focussed on three primary objectives: (i) the delineation of lands to be preserved for their recreational and environmental value (ii) the determination of the means of preservation; and (iii) finally, the establishment of priorities of preservation action.

The issue of Escarpment preservation arises at this time with particular urgency because of the high rate of urbanization in southern Ontario, and because increasing development pressure, and competing demands for Escarpment lands require a greater degree of coordination in the planning and regulation of Escarpment land use, and in park and recreation development.

## CHAPTER 2

### RECOMMENDATIONS

The recommendations that follow are a summary of the proposals that emerge in Chapter 3 to 6. For each set of recommendations, a cross reference is given to the relevant part of the text. The underlying premise which has guided the entire Study, and which is reflected in these recommendations, is the broad goal inherent in the terms of reference: the preservation of the Niagara Escarpment as natural parkland.

#### 1. The Study and Administrative Area

The basis for defining an administrative area for an Escarpment preservation programme shall be the boundaries of the Study Area, which are approximately two miles on each side of the main axis of the Escarpment, defined in relation to its edge or highest contour. This area (the Escarpment Area) constitutes an area of 1,800 square miles. (3.1.2).

#### 2. Proposals by Sections and Areas

Delineation of lands for preservation shall be presented for the natural divisions of the Niagara Escarpment, based on its varying physical character, recreational capability and features. On this basis, six sections and nineteen areas are defined. (4.1).

#### 3. The Different Means of Preservation

The means adopted for preserving Escarpment land for recreational, scenic or general environmental purposes shall be of three types:

- (1) Complete control: the acquisition of title to the land (fee simple)
- (2) Selective control: the acquisition of defined rights in the land (e.g. to purchase public access or the preservation of a particular landscape feature), by easements, leasing, etc.
- (3) Regulatory environmental control: the regulation of the use of land with a view to achieving environmental objectives (e.g. the preservation of forest cover in a headwater area). (4.3. and Appendix 3).

#### 4. Priorities

Priority periods shall be as follows:

- Priority One - within four years
- Priority Two - within six years
- Priority Three - within eight years

Action on lands assigned to the three priorities shall be initiated, and as far as possible be completed, within the above time periods, (3.4.4 and Table 6(1)).

## 5. Lands Delineated, by Sections - Cost and Level of Control

- 5.1 Approximately 90,000 acres (89,781) at an estimated cost of \$31,500,000 shall be placed under complete or selective control.

This total delineated area shall be divided between the two categories as follows:

Complete control	55,000A	-	\$18,500,000
Selective control	35,000A	-	\$13,000,000

The total estimated cost of the programme would include the cost of offsetting the loss of municipal tax revenue and the cost of the access easement for the Bruce Trail outside the designated lands. The cost of the Bruce Trail easement is estimated at \$15,000.

- 5.2 In addition some 300,000 acres of land shall be placed under environmental control, by regulatory means. Environmental control shall also extend over the delineated lands, making a total controlled area of 390,000 acres or approximately 610 square miles. (Chapter 4 and 6.1)
- 5.3 Lands to be acquired outright or placed under some form of selective control shall be distributed amongst the six sections of the Niagara Escarpment, in the following way:

Niagara Peninsula	7,830 acres	8.7%	of total
Dundas Valley	6,080 "	6.7%	"
Mt. Nemo - Caledon Mountain	8,370 "	9.3%	"
Hockley Valley - Devil's Glen	5,530 "	6.0%	"
Georgian Bay	25,430 "	28.3%	"
Bruce Peninsula	36,450 "	41.0%	"

## 6. Priorities - Land and Cost

Forty-six percent of delineated lands for complete or selective control is assigned to the first priority; 42% to the second; and 12% to the third priority. Priorities by section are:

	1st.	2nd.	3rd.
Niagara Peninsula	7,830A		
Dundas Valley	6,080A		
Mt. Nemo - Caledon Mountain	7,455A	920A	
Hockley Valley - Devil's Glen	100A	3,490A	1,945A
Georgian Bay	2,635A	14,000A	8,800A
Bruce Peninsula	<u>17,050A</u>	<u>19,400A</u>	
	41,150A	37,810A	10,745A



Implementation of the foregoing programme will require the following average annual expenditures:

1st priority period - \$6,296,000 for four years  
2nd priority period - 2,045,000 for two years  
3rd priority period - 1,075,000 for two years  
(Table 6(1))

## 7. The Niagara Escarpment as a Park System

- 7.1 The Niagara Escarpment should be preserved, planned and developed as a single park network taking into account its special features, the opportunities for diversified recreation, its role as a predominant landscape element and the requirements of circulation within the Escarpment Area (5.1.2, 5.2).
- 7.2 The park system will be made up of four major components: multi-purpose parks, feature areas, predominant scarp and circulation system.
- (1) Major multi-purpose parks recommended are located at the Niagara Parkway; Effingham Short Hills; Dundas Valley; Rattlesnake Point; Credit Forks; Blue Mountain; Beaver Valley; Cape Croker Indian Reserve; and Tobermory. (5.4.1)
  - (2) Many feature areas - waterfalls, viewpoints, historic sites, rock formations, unique ecological enclaves, etc., are preserved throughout the length of the Escarpment.
  - (3) The scarp, defined on the basis of rock face, contour, slope, soils and forest cover, shall remain as a permanent feature of the Ontario landscape.
  - (4) A circulation system should be evolved, linking parks, features and scarp in a manner which is in harmony with the natural parkland concept. (5.3.1 and map - A Concept of a Niagara Escarpment Parks System).
- 7.3 The Bruce Trail, which provides access for the hiker, should play a major part in the circulation system. Its role should be assured by the acquisition of a 10-foot access easement for the entire length of the Trail. Most of the required land is made available on the basis of the present alignment, as a by-product of the delineated lands, specified in No.5 above. It is estimated that the remaining links, totalling some 91 acres will not exceed \$15,000. (5.3.3)
- 7.4 The Tri-County Scenic Drive can play a role in the circulation system provided that it does not intrude on the natural character of the Escarpment. Areas of possible conflict with Escarpment preservation could occur:

- (1) where the drive crosses the Escarpment face
  - (2) where the drive is on the Escarpment rim
  - (3) where the alignment is very close to the Bruce Trail, and
  - (4) where the talus slope and vegetation at the Escarpment's foot may be disturbed. Land proposals of the two studies are in harmony; although the Scenic Drive study recommends a greater amount of public acquisition in the Niagara Peninsula, for right-of-way and special recreational developments, such as golf clubs.
- (5.3.2)

Implementation of the Niagara Escarpment Scenic Drive, with some additional safeguards for the protection of the Escarpment, would be consistent with the purposes of the Niagara Escarpment Study.

#### 8. The Dundas Valley and the Dundas By-Pass

A substantial part of the Dundas Valley is delineated as public parkland or scenic easement. The proposed Dundas By-Pass would traverse the delineated area. It is suggested that these overlapping public purposes need to be evaluated in terms of the long range benefit to the Province. Accordingly, it is recommended that consideration of this issue be given high priority by the Advisory Committee on Regional Development, when it receives this report. (6.2.2)

#### 9. The Extractive Industry

On the basis of the sub-study, chaired by Dr. Alex Blair, it is recommended that:

- (1) provincial standards should be applied wherever extractive industries are permitted,
- (2) a licensing system be established requiring that operators register a legal description of active and reserve properties,
- (3) site development plans be prepared by all new operators, and, after due notice, existing operators. The site plan would deal with uses during and after extraction, and with performance standards related to the screening of the site, treatment of earth materials, safety, etc.,
- (4) performance bonds be posted, to guarantee the carrying out of site development plans, with values related to tonnages of extracted material. (6.3),
- (5) the Escarpment Area (Study Area) be zoned for extractive industry purposes, providing an inner zone which is designed to permit the continuation of established operations, but excludes new openings; and outer zones, extending to the limits of the Area, where extractive operations would be permitted in designated zones in accordance with the provincial code. The inner zone recommended is two miles wide centred on the Escarpment face.

The "site development" approach should be used as a means of

assuring the restoration of pits and quarries for future activities, that are compatible with the natural parkland character of the Escarpment. (6.3 and Appendix 4)

## 10. Administration

- 10.1 A Niagara Escarpment Secretariat should be established to serve as a coordinating and expediting body in carrying out the recommendations of this Study. Its major functions should be Finance (advisory to the Parks Integration Board), Planning (for Escarpment use and development), Regulation (advisory to Department of Municipal Affairs and the Ontario Department of Mines), and Liaison (with agencies involved in any aspect of Escarpment use and development). (6.4 see Organization Chart).
- 10.2 The Secretariat should have a small but highly competent professional staff, working under a Secretariat Director, and should be established in a part of the Provincial Administration which is not directly involved in the Escarpment Area, such as the Treasury Department or the Prime Minister's Office.
- 10.3 A Niagara Escarpment Secretariat Committee should be established to provide an on-going means of achieving the integration of Escarpment policies and programmes. Its membership would consist of the Departments of Agriculture, Finance and Economics, Energy and Resources, Mines, Municipal Affairs, Lands and Forests, Tourism and Information, and the Director of the Niagara Escarpment Secretariat, who will act as Chairman to the Committee.
- 10.4 In addition, a Niagara Escarpment Advisory Council should be formed, as a link between the Secretariat and the major groups and individuals interested in the future of the Niagara Escarpment.

## 11. Provincial Regulation

- 11.1 Direct provincial regulation of an extractive industry code will be required to prevent the uneven and discriminatory application of provincial standards within the Escarpment Area. (6.5) This may be accomplished by the exercise of zoning authority by the Minister of Municipal Affairs, under the recent amendment to Section 27(1)(a) of The Planning Act of Ontario.
- 11.2 To achieve effective "selective control", it is proposed that legislation be passed specifically authorizing the use of easement and specifying:
  - (1) the types of permitted easements
  - (2) the purpose of easements
  - (3) the rights of contracting parties in easement agreements,



- (4) the public agencies authorized to negotiate easement agreements, and
- (5) responsibility for the supervision and enforcement of easements. (6.5)

(NOTE: The specific legislative means, e.g. by amendment to The Public Works Act, or another Act needs further study).

11.3 To achieve the comprehensive environmental control recommended by the Study, it is recommended that:

- (1) that the Planning Act of Ontario be amended to authorize the Minister of Municipal Affairs (a) to designate areas in the Province where Official Plans should be prepared, and (b) to require that such Official Plans conform with Provincial policies for such areas
- (2) that the Niagara Escarpment Area be designated as an area where Official Plans should be prepared in accordance with the proposals of this Report and with the more detailed plan for the Niagara Escarpment area as it is evolved in the future on the initiative of the proposed Niagara Escarpment Secretariat.
- (3) the Minister of Municipal Affairs require that all municipalities, through zoning by-laws, adopt suitable standards of environmental control (at a date not later than half way in the specified priority period); and assume direct responsibility for land use regulation where municipalities do not take action, in accordance with the authority for direct Ministerial zoning action provided in Section 27(1)(a);
- (4) subdivision control be established for all lot severances, without regard to the size of lots; by the normal administration of Section 26 of The Planning Act as recently amended and by the application of Section 27(1)(b) of the Act, which empowers the Minister of Municipal Affairs to establish subdivision control where it is not provided by local by-laws. (6.5)

11.4 The Niagara Escarpment Secretariat should assume responsibility for initiating the preparation of suitable standards for environmental control, and for defining the use districts to be established in the Escarpment Area.

## 12. Finance

12.1 To systematically carry out the programmes outlined in this report, it is recommended that adequate funds be exclusively allocated in the budget of the Province for the landscape preservation of the Niagara Escarpment. (6.5)

- 12.2 Funds for acquisition of first priority lands should be made available immediately upon the adoption of this report by the Government. (6.1)
- 12.3 At the earliest possible date, lands that have been designated first priority should be purchased wherever (a) land is under option by a public agency at the time of report adoption; (b) sites had been referred to the Niagara Escarpment Study during its research phase, and (c) the land had been under option by a public agency (for conservation, park or recreation purposes) during the six-month period preceding the date of report adoption. (6.1)
- 12.4 It is recommended that all land designated for complete control in any of the three priority periods be acquired, whenever it is established that said land (1) will be severed, by subdivision or description, or (2) will be subject to more intensive use and development. (6.1)
- 12.5 For Escarpment lands designated for "complete" or "selective" control, the Province should assume full cost of acquisition, without regard to the agency assuming administrative responsibility, e.g. Conservation Authority, local council, etc. (6.5)
- 12.6 Consideration be given to a system of compensation to municipalities for the loss of tax revenue due to the acquisition of land for a public recreational purpose. (6.5)
- 12.7 To assure the harmonious use and development of the Escarpment, the Niagara Escarpment Secretariat should be requested to review the allocation of funds to the various implementing agencies, and to make recommendations on disbursements. (6.5)

## CHAPTER 3

### THE STRATEGY OF THE STUDY

#### 3.1 The Study Area

The limits of the Study area encompassed all the resource values of the Escarpment, and closely related lands. The rationale of the Study area will be better understood if we have a look, however selective, at some of the major characteristics of the Niagara Escarpment.

The place of the Niagara Escarpment in Southern Ontario has been clearly documented. It has received the devoted attention of the scholar, the naturalist, the designer and the regional planner: from Chapman and Putnam on its physiography; Tovell and Karrow on its geology; Falls on its ecology; Hough on its landscape; Woodford on its wildlife; and Pearson on its place in the regional environment. It is the totality of all these elements, expressed as a unique element in the landscape of Ontario, that underlies the present concern for its preservation - and gives the focus of this study.

##### 3.1.1 The Escarpment as a Resource

The rock of the escarpment - the sandstones, limestones, shales and dolomites - forms the basis of a multi-million dollar building materials industry, as well as the rugged cliffs (Lockport dolomite and Queenston shale) that provide a dramatic accent in the otherwise gentle southern Ontario topography.

Throughout its length it forms a distinctive part of the natural environment - in the Niagara region where it rises about 300 feet above the lake plain, in the area of the Milton outlier which is 400 feet above the plain lying to the south and east, at the Credit Forks where the brow is 1450 feet above sea level, and at the Blue Mountain which looms above Collingwood and Georgian Bay at a height of 1,000 feet.<sup>1</sup>

The shallow rocky soil, extending about one mile back from the cuesta or edge of the Escarpment has restricted farming and most of the area is left in forest - mainly in sugar maple-beech and elm-ash-cedar associations.<sup>2</sup> From the air the Escarpment appears as a thickly wooded belt in a sea of farmland except for the Bruce Peninsula where the forest is more extensive.

The headwaters of a number of streams, important to the water regimen of southern Ontario, are located along the Escarpment. Some of the larger stream valleys originating in or traversing the Escarpment are Twelve Mile Creek, west of St. Catharines; the Dundas Valley, the "Hinge" between Hamilton and Burlington; the Credit River, Bronte and Oakville Creeks in the Mt. Nemo - Caledon Mountain Section; the Humber, the Mad, the Pine and the Noisy Rivers in the Hockley Valley - Devil's Glen Section; and the Pretty River, Beaver Valley and Bighead Valley in the Georgian Bay Section. (See Sections and Areas Map).

The Dundas Valley, the major break in the southern part of the Escarpment, is of particular interest as the valley of the pre-glacial river which joined the basins of Lake Erie and Lake Ontario.<sup>3</sup> The headwaters function of the Escarpment is a major feature which links its preservation to the goals of water conservation. This link is presently expressed by the Conservation Authorities along its path.



Along the Escarpment there are a number of special habitats that support interesting plant and animal communities. Notable are the unusual ferns in the trench between the Milton outlier and the Escarpment, and the famous lady's slipper orchids in the white cedar bogs of the Bruce - one of forty species of orchids growing in that peninsula. The undulating topography of the Escarpment, and its forest cover provide a favourable habitat for the white tailed deer. Deers are most numerous in the Bruce but exist as far south as the Dundas Valley adjacent to metropolitan Hamilton.

The physical geography of the Niagara Escarpment has shaped the geography of settlement. It has been described as "a great wall" stretching "across the whole of peninsular Ontario." At the points where that wall can be scaled, due to a break in its topography, roads and railways and towns, such as Milton and Georgetown have been built. Escarpment-based power sites provided a focus for early settlements - and of course, for the Niagara Falls power complex. At a number of locations where the Escarpment comes close to Lake Ontario or Lake Huron, ports have been established at breaks in the Escarpment, or at natural transshipment points, e.g. St. Catharines and Hamilton, or where ancient river valleys take the form of deep sheltered bays, e.g. Owen Sound and Wiarton.<sup>5</sup>

The outstanding feature of the Niagara Escarpment is its continuity - although where the rock is overlain by moraines (particularly in the area extending about thirty miles north of the Credit-Forks) it assumes a different form. Today the continuity of the Escarpment is given tangible and vital reality by the Bruce Trail, created and maintained by voluntary effort. The Trail extends for a distance of 465 miles from Queenston to Tobermory.

### 3.1.2 Boundaries of the Study Area

Study area boundaries, which are plotted on the report maps, have been defined broadly enough to include all of the major features of the Escarpment cuesta or belt - including the headwaters of streams which flow from the Escarpment. Generally this is accomplished by establishing the boundary at approximately two miles on each side of the main axis of the Escarpment, defined in relation to its edge or highest contour. The boundary has been adjusted to include special features of recreational or environmental significance such as the Cameron Lake Forest Reserve. In the Niagara region it includes the fruit belt below the Escarpment and some of the tableland above, including the Fonthill area. With the inclusion of the Georgian Bay shoreline in the northern section, the study considered the naturally close association of escarpment, shoreline and bay in the recreational development of that region.

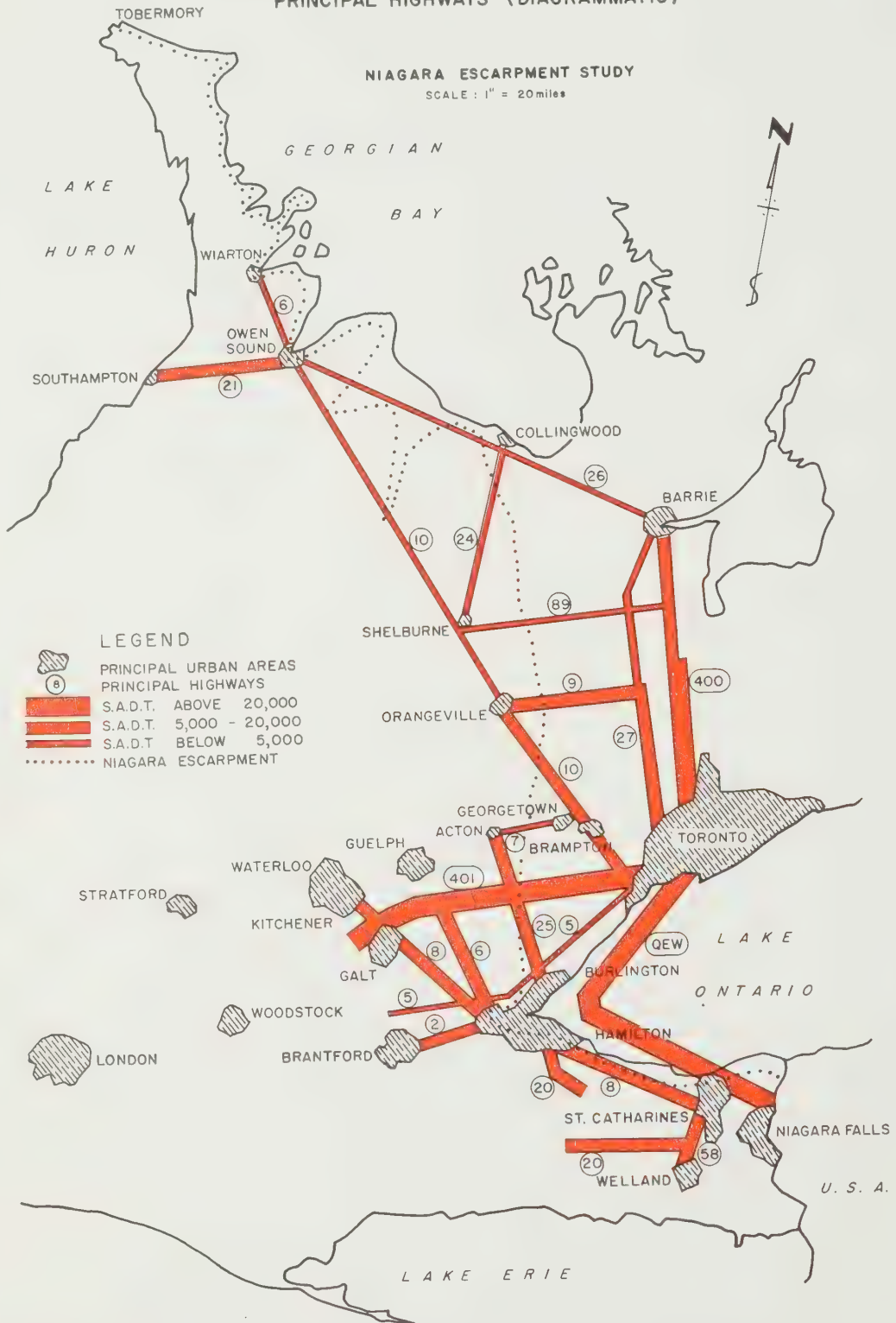
The defined Study area runs through 9 counties; four Economic Regions - Niagara, Central Ontario, Midwestern and Georgian Bay; the territory of 8 Conservation Authorities - Niagara, Hamilton, Halton, Credit, Metropolitan Toronto and Region, Nottawasaga, North Grey and Sauble; the area of 31 Planning Boards (Single Independent and/or Joint and Subsidiary Branches), and 63 local municipalities. This multi-jurisdictional nature of the Study area poses one of the central challenges of the Study, namely, how to achieve a unified approach to the preservation of a distinctive and unique part of the Ontario landscape.

For the purposes of the Study, the Niagara Escarpment has been classified in terms of six sections and nineteen areas. The character and function of these parts (shown on the Sections and Areas Map) are described in the next chapter. They represent the variations in physiographic character and recreational capability that occur along the Escarpment. As such they are a useful device for a more sensitive delineation of lands for their recreational and environmental potential. The resulting diversity in types of land delineated provides one of the essentials of

# PRINCIPAL URBAN AREAS AND SUMMER AVERAGE DAILY TRAFFIC (S.A.D.T.) ON PRINCIPAL HIGHWAYS (DIAGRAMMATIC)

## NIAGARA ESCARPMENT STUDY

SCALE : 1" = 20 miles



the natural parkland system.

### 3.2. The Niagara Escarpment and the Rising Demand for Outdoor Recreation Space

An overview of the Study area in its Ontario setting reveals its highly strategic position in relation to rising recreation demands. The accompanying map shows its relationship to major urban centres and highways. The Escarpment is located within easy reach of the core of urbanized Ontario - Tobermory at its northern extremity is only 190 miles from Hamilton, 195 from Toronto and 210 miles from London. And this is precisely the area where there is a convergence of the highest demand for outdoor recreation space and the least amount of space available. While the outdoor recreation demand factors press upon the supply of land in the urbanized regions, accessible recreation space is strictly limited. In Ontario the moderately accessible forest belt contains 17.5 acres per capita, the highly accessible agricultural belt has 3.2 acres and within that area the five county Toronto - Hamilton region has less than 1 acre per capita.<sup>6</sup>

The importance of the Ontario demand for outdoor recreation space is indicated in a recent (1965) review of Ontario's tourist industry by the Ontario Economic Council. In 1963, 64% of the 840,000 campers in provincial parks were Ontario residents; 29% from the U.S., and 7% from other provinces.<sup>7</sup> The American component is also of potential significance for the recreational role of the Niagara Escarpment, as tourism research indicates that travelers from the U.S. favour areas close to the border and are attracted by the scenic quality of our resources.<sup>8</sup>

The foregoing is presented to draw attention to the general context of recreation demand within which the future of the Escarpment must be considered. More specific consideration will be given in Chapter 4 to factors of population accessibility and development pressures in relation to deciding land preservation priorities. The point that needs to be stressed is the unique, highly valuable and many-dimensional character of the Niagara Escarpment as a natural parkland corridor in the rapidly urbanizing belt of Ontario. By 1980 an additional 2.3 million people will be added to the towns and cities of the Province, and most of these will be within about one hundred and fifty miles of the Escarpment.<sup>9</sup>

The advance phalanx of demand attracted to the Escarpment will unquestionably be for camping, picnicking, hiking, and skiing. But in addition the forests and cliffs and hills and plants and animals and streams of the Escarpment will provide opportunities for many specialized interests - for the scientist and naturalist who wishes to observe relatively undisturbed natural communities, for the city school child learning about the "web of nature" as he now does from his base at the Albion Hill Conservation School, for the bird-watcher and for the fisherman.

### 3.3 The Extractive Industry and the Principle of Multiple Resource Use

Mineral resources of the Escarpment are significant in understanding the economic potential of the area. The 1966 value of production of the sand and gravel, clay and shale, crushed stone and building stone industries within a 60-mile radius of the centre of Toronto, i.e. mainly located within the Study area, has been recently estimated at about \$62,000,000. A report by the Chief, Industrial Mineral Section, Geological Branch, Ontario, has stressed the importance of transportation costs in the economics of heavy building materials - a ton of stone hauled to Yonge Street from the Milton Quarry costs about \$2.90 of which more than half is haulage cost - and every additional mile costs 5 cents per ton. Extractive industries, accordingly,





*Old Corduroy Road — Bruce Peninsula*



have a tendency to concentrate in the areas closer to Hamilton and Toronto - very few are located north of Orangeville.<sup>10</sup> This "pull" of the cities on the mineral resources of the Escarpment leads to a competition for land in the same area where the recreation impact is most intense. In view of this situation, the Study has taken as one of its main tasks, the formulation of sound principles and policies of multiple resource use, in areas where building resources can be economically developed. A sub-study under the direction of Professor Alex. Blair of York University has been completed and its major recommendations are presented in Chapter 6.

### 3.4 The Scope and Method of the Study

The Niagara Escarpment Study is a policy-oriented study. Commenced early in July and scheduled for completion at the end of April - a period of ten months, it was not possible to contemplate extensive primary surveys and research. Instead the approach was to build upon the background of completed and on-going studies by various agencies with an interest in some part or aspect of the Escarpment, and to integrate the results in a way that will yield answers to four basic questions: What? - what lands should be preserved? How? - how can preservation be achieved? How much? - how much will the delineated land cost? When? - when should the lands delineated in the different parts of the Escarpment be acquired or controlled in some other way?

#### 3.4.1 What Lands? - Delineation

Three sets of data in particular, are critical to the delineation of lands for preservation: present land use, recreation capability and the plans and programmes of both public and private agencies.

##### 3.4.1.1 Land use

Land use was prepared from aerial photography, (stereo pairs at a scale of 1" = 1320') obtained for the Niagara Peninsula area to Georgetown from the National Photo Library, Ottawa (1965) and for the remainder of the area to Tobermory from the Silviculture Section, Department of Lands and Forests, Ontario (1967). The information was updated to 1967 by field checks and from municipal records, and was plotted on base maps of the national topographic series - 20 sheets at a scale of 1 to 25,000 (approximately 1" =  $\frac{1}{2}$  mile) for the Niagara Peninsula to Georgetown, and 21 sheets at 1 to 50,000 (approximately 1" = 1 mile) from Georgetown to Tobermory. These Existing Predominant Land Use Maps present graphically the existing development within the Study area by twenty-eight categories under the headings of Residential; Commercial and Industrial; Civic, Cultural and Other Special; Agricultural; Recreational; and Miscellaneous such as forest and scrub land, marshland, etc.

##### 3.4.1.2 Recreational Capability

The Study has obtained the preliminary results of the Canada Land Inventory - Recreational Capability Survey, which is being undertaken in Ontario by the Lands and Surveys Section, Department of Lands and Forests. This capability statement represents a synthesis and evaluation of the underlying elements of the Escarpment - geology, topography, ecology, climate, history, land use, etc. which affect its recreational use. For example in rating Viewpoints, the following are considered: the angle of vision; the variety of the view - i.e. does it include such positive landscape features as fields, streams, waterfalls, forests, hills, and negative landscape features such as junkyards or other eyesores? In rating ski



*Skinner Bluffs — Bruce Peninsula*

hills the following factors are evaluated: the height, width and variety of slopes, snowfall, soil and tree cover, topography of runs, aspect and outrun area.

The capability statement is a qualitative look at the Escarpment. One of the more interesting themes that can be traced is the historical one - from the former camping grounds of the Neutral Indians at Lake Medad, to the numerous sites of grist and saw mills - including the Ancaster Mt. Mills which has been in continuous operation since 1788, to the battles, the shipwrecks off Tobermory, and the memorial to the Group of Seven painter, Tom Thomson.

#### 3.4.1.3 Plans and Programmes

The philosophy of the Study is to build on the work of the groups that have over the years influenced the use of the Escarpment, and will have a continuing interest and impact on the environment of the Escarpment. This concern has taken the form of the collection of data, and of discussions with key individuals and groups. During the Study, some 58 personal meetings have been held; the individuals are listed in Appendix 1 of this report.

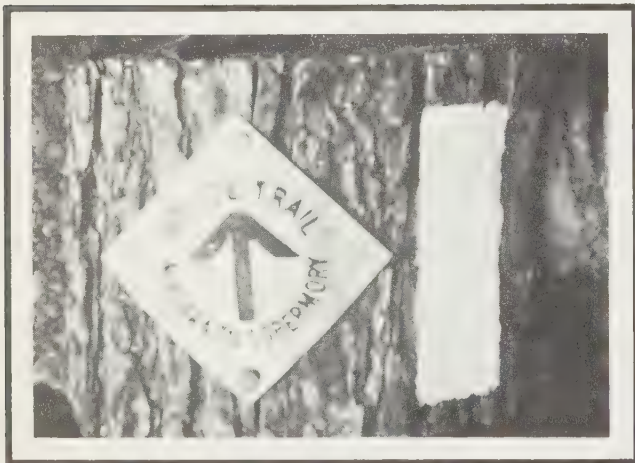
Data on public open space reveals that two major agencies are involved in recreational and park activities on the Niagara Escarpment - the Department of Lands and Forests, and the Conservation Authorities which receive grants and technical assistance from the Department of Energy and Resources Management. The Department of Lands and Forests owns 7,720 acres - 3,300 for provincial park development, and 4,420 acres mainly for wildlife management purposes. The Department appears to be putting forward a strong effort to develop a major park and protect the outstanding environment in the Bruce Peninsula - 80% of its parkland is in St. Edmunds Township at the northern end of the Bruce. To the present, most of the acquired land is in the interior of the Peninsula which includes areas of high potential such as Cyprus Lake. Of the 64 miles of Georgian Bay shoreline between Wiarton and Tobermory, the Department owns about 1.2 miles. Areas under consideration for acquisition throughout the Escarpment indicate a strong continuing interest in the region.

The Department is also substantially involved in the area through the management of Forest Agreement Tracts - on some 10,592 acres owned by the counties, and 6,350 acres held by various Conservation Authorities.

Land owned by the Conservation Authorities is, as follows:

<u>Conservation Authority</u>	<u>Acreage</u>
a) Niagara Peninsula	348
b) Hamilton Region	300
c) Halton Region	1,100
d) Metropolitan Toronto Region	2,163
e) Credit Valley	1,400
f) Nottawasaga	45
g) North Grey and Sauble Valley	<u>5,038</u>
Total	10,394





*Bruce Trail Walkers and Markers*



The Study has drawn on the experience of Authority resource managers, a number of whom have held their positions for a substantial number of years and have an intimate and detailed knowledge of their regions. The Escarpment Authorities as a group have submitted to the Study a schedule of lands which in their view have high priority for acquisition as parkland. While it has not been possible in the Study recommendations to accommodate all the suggestions, the Study has had the benefit of well-informed commentaries on individual parcels of land. This kind of documentation of field observations has proved invaluable.

It has been essential for the Study to obtain an understanding of the effect of local Official Plans and Zoning By-laws on the use of Escarpment land. Of the 63 Municipalities wholly or partly within the Study Area, 24 have Official Plans, 13 have Draft or Pending Official Plans and 8 Municipalities are in the process of producing a Plan. Of these, 46 municipalities have adopted zoning by-laws. However, of the 29 municipalities north of Orangeville, 5 have Official Plans, 4 have Draft Official Plans and 14 have adopted zoning by-laws. It has been found that a limited number of municipalities have "open space or conservation" classifications in their Official Plans - notably Niagara Falls, St. Catharines, North Grimsby, Clinton Township, Saltfleet, West Flamborough, Burlington (partly), Hamilton City (partly), Owen Sound and others where Conservation Authority lands are located. In all cases, with the exception of Conservation lands and Niagara Falls, the use districts apply only to the face of the Escarpment.

A general problem in the area arises out of the concept of "agricultural district" that prevails in the Plans and By-laws of Escarpment municipalities. As a rule, a considerable number of non-agricultural uses are permitted, such as low density residential development, commerce and industry serving agriculture, churches, schools, hospitals and other institutions, cemeteries, country clubs, and in a number of cases quarries and sand and gravel pits. While there may be good reasons for this kind of flexible land use category, from the point of view of the Escarpment it is non-selective and could well permit activities which are incompatible with its preservation as natural parkland.

One of the impressions emerging from the evaluation of plans and programmes is that the Bruce Trail, the remarkable achievement of the Bruce Trail Association, is not secure. As an expression of the deep personal interest of many people and of voluntary and co-operative effort, the Trail is of course a great success. The planning, the negotiating of agreements with land-owners, the maintenance of the Trail, the educational impact and the high spirit of the whole effort represent a contribution of a very high order. And the hundreds of landowners by giving their co-operation share much of the credit.

The information acquired by the Study indicated that in a number of sections of the Trail, the alignment must frequently be shifted to roads and other low amenity routes. The apprehensions of the "trailer" were expressed last summer in Footnotes, the publication of the Toronto Bruce Trail Club: "No doubt constant rerouting will be the story in the future, probably through less desirable areas as the attractive ones are taken up with housing developments or quarrying operations." Some consideration of this problem will be given in the final chapter of this report.

### 3.4.2 How to Preserve the Land? - Land Preservation Techniques

#### 3.4.2.1 Ontario Legislation

The magnitude of the task of land preservation in an area of approximately 1,800 square miles, has made it essential for the Study to examine the entire repertoire of techniques for achieving the Study objective. First, relevant Ontario



*Wave-Sculptured Rock Formation*

legislation was examined. The table in Appendix 2 of this report, summarizes the provisions of twenty-one Ontario Acts that relate to the use, regulation and acquisition of land. The legislation is not of course focussed on the Escarpment, but its use in a co-ordinated manner offers considerable opportunity for influencing the use of land in a desired direction. The problem areas that have come to light during the Study are the inability to relate the parcelling of land in lots of ten acres or more to any orderly development pattern; the uneven application of the fifty per cent provincial financial grants for land acquisition because of the varying financial capacities of Conservation Authorities; and the apparent diminished bargaining power of Authorities due to the recent restriction of their powers of expropriation.

Some of the provisions of particular interest are: the power of the Minister of Municipal Affairs to directly regulate the use of land by Ministerial Order whether or not a zoning by-law has been passed by the municipality, provided that the provisions of such order do not conflict with any Official Plan for the area; the 1967 amendment to the Game and Fish Act<sup>1</sup> allowing the Crown to purchase a conservation easement for hunting and fishing purposes, including public access and management; and the Ontario Parks Integration Board Act which empowers a ministerial level Board "to establish integrated policies of management and development of provincial parks".

The problems as well as opportunities of Ontario legislation will be considered in Chapter 6 which deals with Implementation.

#### 3.4.2.2 Legislation: Other Jurisdictions

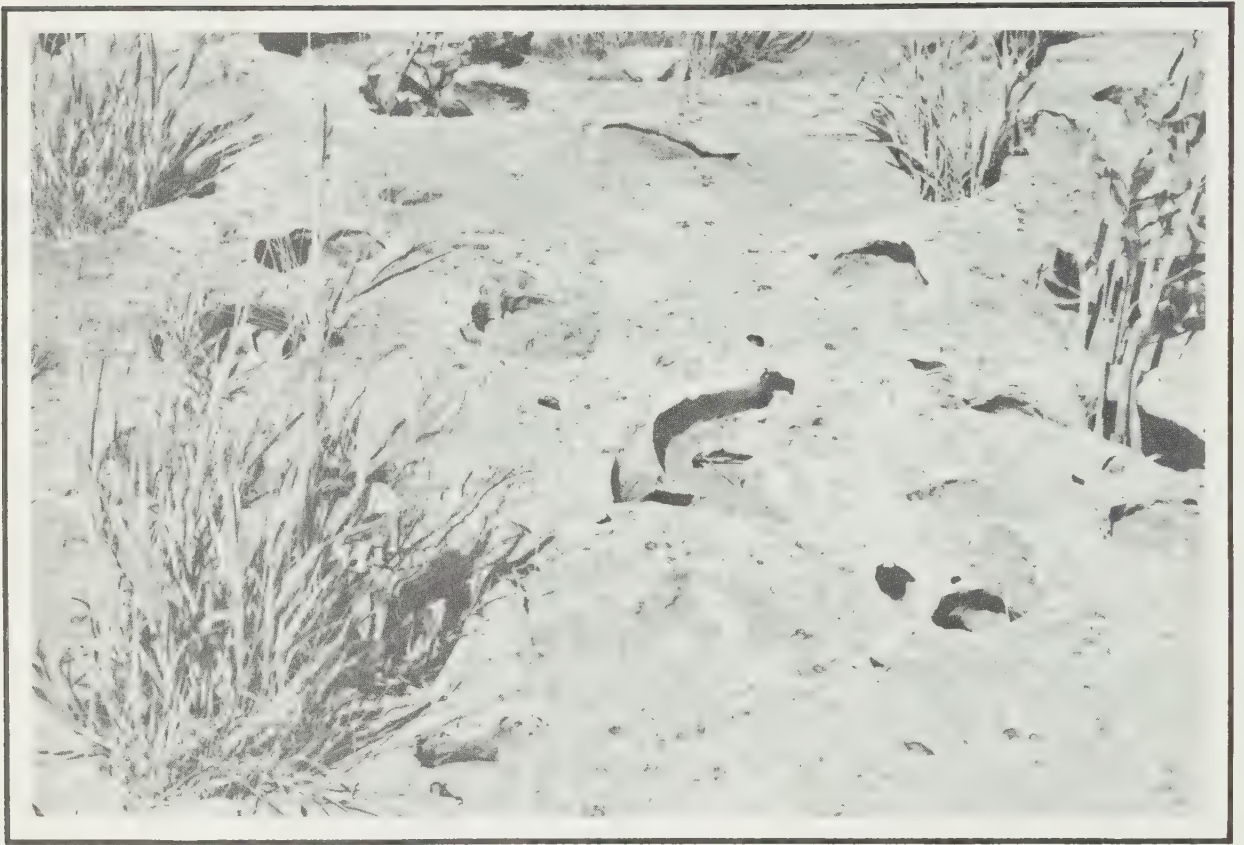
The Study has examined a number of outside approaches to comprehensive environmental preservation and control. The most relevant experience was found to be in the State of Wisconsin, which in 1961 "embarked on a history-making, ten-year, fifty million dollar resource development and conservation program".<sup>11</sup> The Coordinator and Study staff had the opportunity for an exchange with the administrators of this programme in the State Capitol, and Professor Philip Lewis, of the University of Wisconsin addressed the Sub-Committee on the Niagara Escarpment. The Study staff has also availed itself of two papers in Land Economics that evaluate various aspects of the Wisconsin programme.<sup>12</sup>

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<sup>1</sup>

For exact reference see The Game and Fish Act 1961-62, Administration: 6 (3), (4) - (1967).





*Solution Cavities in Dolomite — Lake George*



Briefly, the lessons which emerge from the Wisconsin experience are the following:

Planning for outdoor recreation is on a state-wide basis, and is a major, pivotal, on-going function of the Department of Natural Resources and its broad goal is "a fully integrated program," encompassing outdoor recreation, fishery and waters, forests, and wildlife. A general guide for the acquisition and control of parkland has been prepared, which places major emphasis on the "recreation corridors" formed along the rivers and lakes of the State.

Implementation of the recreation program is through an Outdoor Resources Action Plan (ORAP) which is financed primarily by a special levy of 1¢ per pack of cigarettes. In recent years this has proved a declining financial base, and the State is now considering a base which will be expanding, such as a fixed percentage of the State's general purpose revenue budget.

A major innovation in the acquisition and control aspects of the program has been the extensive use of easements. This has been made possible by a 1961 amendment of the Conservation Act, which **reads** as follows:

Conservation Easements And Rights in Property. Confirming all the powers hereinabove granted to the commission and in furtherance thereof, the commission is expressly authorized to acquire any and all easements in the furtherance of public rights, including the right of access and use of lands and waters for hunting and fishing and the enjoyment of the scenic beauty, together with the right to acquire all negative easements, restrictive covenants, covenants running with the land, and all rights for use of property of any nature whatsoever, however denominated, which may be lawfully acquired for the benefit of the public. The commission also may grant leases and easements to properties and other lands under its management and control under such covenants as will preserve and protect such properties and lands for the purposes for which they were acquired.

Conservation easements have been a major factor in ORAP. Approximately 30,000 acres or 20% of the total land controlled in the ORAP Program by the end of 1967, was by means of easements. In addition, scenic easements have been used extensively by the State Highway Commission.

The overall cost experience indicates that access, management, or preservation rights in land can be acquired at a cost substantially less than the cost of outright acquisition - the ratio varies from about 13% for game land acquisition compared on an acre basis, to 18% along streams and 93% around lakes, calculated on a front foot basis.<sup>13</sup>

Special attention is given to the impact of land acquisition on the economies of municipalities. When recreation lands are taken off the State payroll, the State will pay the equivalent of the full assessment in the initial year, and decrease payments by 10% per annum. The underlying assumption is that recreational development will increase economic activity and draw compensating sources of revenue to the affected municipalities.

Considerable emphasis is placed on consultation with citizens'

groups. A statewide advisory council, representing different parts of the state, has been formed for this purpose.

The foregoing are some of the highlights of the Wisconsin outdoor resources programme. Still more recent legislation on shoreland resources regulation has been adopted, which embodies certain principles of environmental control that are relevant for this Study, and reference will be made to these in the Chapter on Implementation.

The analysis of Ontario and other approaches to landscape preservation has led to the identification of three levels of control, depending on the public purpose, and the character and location of the site. These are complete control, through the purchase of title to the land; selective control through easements and similar devices (See Appendix 3 for definitions); and environmental control through land use regulation. These will be further defined and applied to specific lands in Chapter 4.

#### 3.4.3 How Much Will Preservation Cost?

The cost of land acquisition will have a major effect on the feasibility and rate of progress of the proposed programme of Escarpment preservation. The Study has been able to make estimates on the basis of records in municipal and provincial government offices.

In the Niagara Peninsula a price analysis was made on the basis of the property sale recorded on the assessment cards in each township office. The data is primarily (93%) for the last five years, and most of it (65%) covered the 1965-67 period. Data for the Dundas Valley section was less complete but generally conformed to the range of the Niagara Peninsula.

For the other sections of the Study, price data was obtained from the Department of Public Works, which is responsible for appraising and purchasing most of the land designated by each Department for public acquisition. A second source of data were appraisal reports prepared for the Departments of Highways and Energy and Resources Management.

The overall pattern of prices indicates a peak in the Niagara Peninsula which is maintained to the Dundas Valley and then there is a progressive decline in the remaining sections to the Bruce Peninsula. The ratio of high to low at the bottom of the price range is about 40 to 1, and at the top, 20 to 1. Niagara land sales by lot size and township are shown in Table 3(1).

#### 3.4.4 When Preservation? Priorities of Land Control

The approach to priorities in this Study arises out of the nature of the Escarpment - a unique and irreplaceable resource of high recreational and amenity value. In the nature of things, action to preserve the Escarpment where it is under the kind of pressure that will destroy its essential qualities, will have to be taken quickly, if it is to be effective. For this reason we have set a relatively short period of time, eight years as the period within which the necessary action should be undertaken. Within that time, it is suggested that action be staged in terms of three priorities - of four, six and eight years. The basis for the priority rating of specific lands is presented in 4.4. of the next chapter.

#### 3.4.5 The Extractive Industry

Reference has been made to the importance of the extractive industry in the

region of the Niagara Escarpment, and to the need of working out sound policies and principles of multiple resource use, consistent with recreational objectives. To do this effectively and in a reasonable period of time, the Study has assembled a group of specialists to consider the inter-related resource-economic-land use issues involved. They are Professor A. M. Bauer, Department of Landscape Architecture, University of Guelph; Professor A. M. Blair, Department of Geography, York University; and Professor P. F. Karrow, Chairman, Department of Earth Sciences, University of Waterloo. Professor Blair has acted as Chairman of this group, and liaison has been maintained through a research secretary from the staff of the Niagara Escarpment Study. The terms of reference of the extractive industry study are as follows:

Purpose of the Study: To make recommendations concerning the development of the Escarpment extractive resources - e.g. limestone, shale, sand and gravel, in a manner consistent with the recreational use and enjoyment of the recreational resources of the Niagara Escarpment.

Scope: The preparation of such recommendations will require the study of the following matters:

1. Mineral resources - location, volume.
2. Mineral Workings - present sites of operations for different resources - limestone, shale, gravel, sand.
3. Mineral holdings - location and precise limits of land held by private enterprise, for present or future excavation.
4. Historical overview of the industry, including changes in level of production, value of production, employment, number of firms, sizes of firms, and capitalization; and the analysis of trends in the foregoing.
5. The markets for Escarpment mineral production; analysis of the past location of markets and of the factors affecting the size and location of future markets.
6. An estimate of future demand for Escarpment resources of limestone, shale, gravel and sand - for a 25 year period, at 5-year intervals.
7. On the basis of the foregoing, #1 to 6 incl., a summary statement on the role of the extractive industry in the Ontario economy.
8. The methods of site exploitation by the Extractive industry along the Escarpment.
9. Determination of the character and potential of recreation resources in the area affected by #2 and #3 above.
10. The legal zoning pattern and regulations pertaining to extractive industry along the Escarpment.

Results: On the basis of the foregoing information and analysis recommendations should be made concerning the following matters:

1. Areas designated for extractive use; specific delineation.
2. Standards of development for such areas.
3. Methods of treatment of excavated sites to facilitate future recreational use and enjoyment.
4. On the basis of #1 to 3, a model **enactment for the** regulation of the extractive industry along the entire Escarpment, based on the principle of multiple resource use.

To summarize the Study recommendations, a few general observations can be made.

The extractive industries of the study area are of economic importance and the rational use of the non-metallic minerals of the study area are to be encouraged. Most of the industries in the study area are characterized by open pit mining resulting in a reshaping of the landscape. The reshaping, while a particular operation is active, or after mining has ceased, may or may not be compatible with recreational activities and potentials in the study area. Examples exist, both within the study area and in other parts of Southern Ontario, of extraction sites which have been converted to recreational use after mining has ceased. The area south of Georgetown to the Niagara River is recognized as the most critical portion of the study area both from the viewpoint of extraction and recreation because of the availability of mineral and recreational resources and the proximity of a large number of people to these resources. The area from Hamilton to Milton is of particular significance.

The economic importance of a particular site will vary with the resource being extracted, its quality and quantity, distance from markets and size of operation. However, certain conclusions regarding the resources mined by the industries are possible.

1. Relative Importance. Limestone is the most important resource in terms of value of production, followed by shale, sand and gravel and sandstone.
2. Building Stone. Dolomite of the Lockport Formation and a sandstone of the Whirlpool Formation, both of which are used for building stone, are mined only in the study area. These particular stones are limited in occurrence and are not physically accessible or do not occur elsewhere. Accessible reserves of both stones are limited by physiography and urban development.
3. Limestone for crushing and suitable as granular construction materials is widely available outside of the study area as well as within it. The major markets served by quarries in the study area are also served at present by quarries outside of the area.
4. Shale is best exposed in the study area compared with other parts of the Province. However, shale is available outside of the area and is in use there by large brick-making operations.
5. Sand and Gravel deposits in the study area are presently of lower quality than deposits farther east and west.
6. Oil and Gas are extracted on the edge of the study area and may be found within the area.



7. Base Metals (lead-zinc), Clay Marl and Peat occur in the study area but are at present relatively unimportant in the area's economy.

8. General. The extraction of non-metallic minerals should continue within the study area and can be compatible with and contribute to the recreational uses and potentials of the area.

In the final chapter of this report reference will be made to the location of extractive industries, standards of development, methods of treatment of excavated land, and to the necessary scope of a model enactment to provide for the fair and effective regulation of extractive operations.

TABLE 3 (1)  
RECORDED LAND SALES DATA

Township	Under 10 acres (4 - 9.9. acres)	%	10 acre lots (10- 11 acres)	%	Over 11 acres	%	Total Sales
Ancaster	2	*	-	-	18	*	20
Saltfleet	16	14	46	41	50	45	112
North Grimsby	15	19	6	8	57	73	78
Clinton	51	29	17	10	109	61	177
Louth	31	30	13	13	58	57	102
Pelham	5	5	33	33	62	62	100
Thorold	4	*	6	*	30	*	40
Niagara	54	19	32	12	190	69	276
Niagara Falls (City)	2	*	1	*	16	*	19
	180	19	154	17	590	64	924

\* Percentages are not computed when the base is less than 50.

## CHAPTER 4

### SELECTION OF ESCARPMENT LANDS FOR PRESERVATION

#### 4.1 Sections and Areas

The Niagara Escarpment Study Area is some 230 miles long, contains 410 miles of escarpment and covers some 1,800 square miles. Owing to its size and complexity, it is necessary to subdivide this area for detailed analysis. For study purposes the area is broken down into 6 sections, and 19 areas. Sections and areas are delineated according to their physical characteristics. Sections are recognized by the major physical forms the escarpment presents through Ontario, and areas comprise important features within sections. Where applicable, sub areas are recognized within areas. For example, Osler's Bluff is a sub area within the Blue Mountain Area in the Georgian Section of the Niagara Escarpment Study Area. (See Table 4(1) and accompanying map).

TABLE 4(1)

#### REFERENCE NUMBERS AND NAMES OF SECTIONS AND AREAS

1. Niagara Peninsula Section
  - 1.1 Niagara Falls, Parkway Area
  - 1.2 Short Hills, St. Catharines Area
  - 1.3 Niagara Corridor Area
2. Dundas Valley Section
  - 2.1 The Valley Area
  - 2.2 Burlington Bay Area
3. Mt. Nemo - Caledon Mountains Section
  - 3.1 Rattlesnake Point Area
  - 3.2 Terra Cotta Area
  - 3.3 Caledon Hills Area
4. Hockley Valley - Devil's Glen Section
  - 4.1 Hockley Valley Area
  - 4.2 Horning Mills Area
  - 4.3 Noisy River Area
5. Georgian Bay Section
  - 5.1 Blue Mountain Area
  - 5.2 Beaver Valley Area
  - 5.3 Bighead Valley Area
  - 5.4 Owen Sound Area
6. Bruce Peninsula Section
  - 6.1 Colpoy Bay Area
  - 6.2 Indian Reserve Area
  - 6.3 Hope Bay - Dyer Bay Area
  - 6.4 Tobermory Area

**LEGEND**

- SECTION BOUNDARY
- - - AREA BOUNDARY
- ▨ URBAN AREA

**SECTION 1 - NIAGARA PENINSULA**

- AREA 1.1 NIAGARA FALLS, PARKWAY
- AREA 1.2 SHORT HILLS, ST. CATHARINES
- AREA 1.3 NIAGARA CORRIDOR
- AREA 2.2 WAPLINGTON BAY
- AREA 3.1 RATTLESNAKE PT.

**SECTION 2 - DUNDAS VALLEY**

- AREA 2.1 THE VALLEY

**SECTION 3 - MT. NEMO-CALEDON MTN.**

- AREA 3.2 TERRA COTTA

**SECTION 4 - HOCKLEY VALLEY-DEVIL'S GLEN**

- AREA 4.1 HOCKLEY VALLEY
- AREA 4.2 HOCKLEY HILLS
- AREA 4.3 HORNY RIVER
- AREA 4.4 HOCKLEY HILLS
- AREA 4.5 BEAVER VALLEY
- AREA 4.6 BLUE MOUNTAIN VALLEY
- AREA 4.7 INDIAN RESERVE
- AREA 4.8 HOPE BAY-OVER BAY
- AREA 4.9 COLPOY BAY
- AREA 4.10 OWEN SOUND
- AREA 4.11 INDIAN RESERVE
- AREA 4.12 HOPE BAY-OVER BAY
- AREA 4.13 INDIAN RESERVE
- AREA 4.14 HOPE BAY-OVER BAY
- AREA 4.15 INDIAN RESERVE
- AREA 4.16 HOPE BAY-OVER BAY
- AREA 4.17 INDIAN RESERVE
- AREA 4.18 HOPE BAY-OVER BAY
- AREA 4.19 INDIAN RESERVE
- AREA 4.20 HOPE BAY-OVER BAY
- AREA 4.21 INDIAN RESERVE
- AREA 4.22 HOPE BAY-OVER BAY
- AREA 4.23 INDIAN RESERVE
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- AREA 4.93 INDIAN RESERVE
- AREA 4.94 HOPE BAY-OVER BAY
- AREA 4.95 INDIAN RESERVE
- AREA 4.96 HOPE BAY-OVER BAY
- AREA 4.97 INDIAN RESERVE
- AREA 4.98 HOPE BAY-OVER BAY
- AREA 4.99 INDIAN RESERVE
- AREA 5.00 HOPE BAY-OVER BAY

**SECTION 5 - GEORGIAN BAY**

**SECTION 6 - BRUCE PENINSULA**

**LAKE ERIE**

**LAKE HURON**

**GEORGIAN BAY**

**ONTARIO**

MILES	0	8	16	24	32
0					
4					
8					
12					
16					
20					
24					
28					
32					

Each area has a recognizable character based on its natural features and the role it plays in the environment. This chapter examines the character of each area and the function it performs and locates those features important to the purposes of the study. Sufficient area around each feature is delineated to ensure its preservation and levels of control over the development of these lands are recommended. A priority rating determines those features selected for preservation.

## 4.2 Criteria for Selection

### 4.2.1 Natural Characteristics

Land considered to be escarpment land of interest to the purposes of the study, and from which features are selected for preservation, has singly or in combination the following natural characteristics:

- (1) Rock Face or Outcrop.
- (2) Slope of 12 percent or greater at the toe. For slopes greater than 12 percent, soils should be left covered in natural vegetation to prevent erosion problems.
- (3) Unproductive Soils associated with the escarpment that should be left in natural vegetation. These include the Farmington clay loams of less than 12 inches depth to bedrock at the top of the escarpment; Ereyen, thin soils and rock outcrop found in extensive areas of the Bruce Peninsula; and Lockport clays, an infertile red clay soil associated with the Queenston shales at the foot of the escarpment.
- (4) Bottomlands and Wetlands close to or crossing the escarpment. These lands are necessary to headwater protection of streams and to minimize damage owing to flooding or erosion.
- (5) Natural Vegetation Areas of importance to the protection of soils and stream headwaters or of importance for purposes of scientific study.
- (6) Wildlife Habitat Areas of importance to the production of game or for scientific study purposes.
- (7) Natural Landforms, associated with the escarpment of interest for recreation or study.
- (8) Viewing Vantage Points to be found along the rim of the escarpment.

### 4.2.2. Functional Characteristics

- (1) Provision of Unique or Special Features. The escarpment provides unique or special features that are irreplaceable. These include, landscape features like Mt. Nemo or the Blue Mountains, water source areas, or rare plant and animal habitats. These areas deserve preservation under scientific management.
- (2) The Escarpment's Role in the Landscape. The escarpment is the major landscape element in some sections of Ontario, notably in the Niagara Peninsula. As such it provides character to the



environment, which enhances the quality of life for all residents in the area. The character provided by this landscape element must be left undiminished.

- (3) Contribution to Diversity in a Park System. A major consideration in any park system is that the system provides the widest possible range of choice of outdoor recreational pursuits to the individual. Features of the escarpment contributing to diversity in the development of a park system must be preserved.
- (4) Functional Requirements for a Trail or Drive. Elements of escarpment lands are necessary to the completion of a continuous hiking trail or to a scenic drive. Development of these areas must be controlled to ensure that continuity is maintained for these purposes.

#### 4.3. Levels of Control

Three levels of control over land are recommended to achieve the goals of the study:

##### 4.3.1. Complete Control

Complete control is recommended for areas of outstanding resource potential or for areas necessary to the development of a park system. Complete control will require acquisition of all the rights in these lands.

##### 4.3.2. Selective Control

Where the goals of the study may be achieved through acquisition or control of some but not all of the rights in the land, selective control is recommended. A variety of instruments should be made available for this purpose, including: conservation and scenic easements, sale and leaseback arrangements, leasing, and management agreements. Fee simple acquisition can be used where there is a financial or administrative advantage.

##### 4.3.3. Regulatory Controls

In order to maintain or enhance the environmental quality of the escarpment lands and at the same time encourage a compatible and rewarding form of development of these lands, it will be necessary to use land use regulations. With a variety of land use regulations it should be possible to achieve many of the goals of the study or to create the framework within which they may be more readily attained. It is assumed that regulatory controls will cover lands also designated for selective and complete control.

#### 4.4. Priorities

##### 4.4.1. Accessibility Rating

Priority for control over the development of escarpment lands depends in part on demand for the escarpment's resources for recreation, home and cottage sites, quarrying, and other purposes. One way of assessing the present and potential demand on escarpment lands for these purposes is to examine the accessibility of

points along the escarpment to centres of population. Those points that are most accessible will be under heaviest pressure for development. An accessibility rating was assigned to seven points along the escarpment by determining the automobile travel time between centres of 5,000 people or more and each of the seven points. Travel time was calculated on the basis of travelling, 50 m.p.h. on freeways, 40 m.p.h. on highways and, 30 m.p.h. on secondary roads. The total population that could reach the various points on the escarpment within one, two and three hours travel time determined the accessibility. The most accessible point was given the value of 10 and the rest of the points rated in relation to 10, (See Table 4(2)). Campbellville is the most accessible point on the escarpment as it is on the Macdonald Cartier Freeway and easily reached from Toronto, Hamilton and Kitchener. Such accessibility would suggest a high priority for landscape control and development of recreational facilities. The accessibility rating was calculated using the Ontario population only. United States inflow would weight the Niagara Section to an undetermined amount.

#### 4.4.2. Potential Attraction Rating

Another approach is to assign an attraction power to various sections of the escarpment based on resource capability for recreation. Attraction power is an inherently complex subject involving individual motivation and choice. A potential attraction rating for sections and areas of escarpment was made on the basis of several assumptions; most important of which is that the capability rating from information supplied by the Department of Lands and Forests, equalled potential attraction power and that these capability ratings for features could be aggregated. Though the approach is crude, it does allow for an appreciation of the relative attraction potential between sections and areas. Again 10 is the highest value rating and the Bruce Peninsula rates highest in potential attraction power. (See Table 4(3) and Potential Attraction Rating Map).

#### 4.4.3. Potential Attraction/Accessibility Rating

Given population (P) and potential attraction power (K) and travel time (T), it is possible to find a potential attraction/accessibility rating (R) for sections of the escarpment by means of the formula:  $R = P \times K$ . Sections of the escarpment were rated according to one, two and three hour  $T$  travel times from centres of 5,000 population or more, 10 being the highest value rating (See Table 4(4)). The combination of accessibility and potential attraction power indicates that the Dundas Valley could rate as the highest priority area with the Halton Peel Section next. The Bruce Peninsula which rates highest in potential attraction power has a high attraction/accessibility rating after three hours **travel** time indicating its importance for weekend and vacation recreational use.

TABLE 4(2)  
ACCESSIBILITY RATINGS

Travel Time		Selected Points on the Niagara Escarpment					
(Hours)	1	2	3	4	5	6	7
1	-	-	-	5.8	10	9.2	2.1
2	-	-	3.2	6.2	10	9.0	4.4
3	2.5	2.3	3.9	6.6	10	9.0	4.8

#### Selected Points on the Niagara Escarpment

- |                  |                      |
|------------------|----------------------|
| 1. Inglis Falls  | 5. Campbellville     |
| 2. Kimberley     | 6. Devil's Punchbowl |
| 3. Horning Mills | 7. Short Hills       |
| 4. Credit Forks  |                      |

#### 4.4.4. Other Factors

In order to test the results of the previous accessibility, attraction power analysis, other indicators of development pressure on the escarpment were examined. These included: (1) the number of dwelling units for which building permits were issued and their location by section and area for 1966; (2) the number and location of subdivision applications to the Department of Municipal Affairs for 1966, (See Table 4(5)); (3) land prices reflecting the competition for land, highest in the Niagara Section and declining to the Bruce Peninsula Section; (4) summer cottage development in the Owen Sound area as indicated in the Ontario Hydro Electric Power Commission, Annual Report from 1957 to 1966, (2,933 summer residences supplied with electricity in 1957, to 5,577 summer residences in 1966); (5) number, growth and length of stay of United States tourist entering the Niagara Peninsula. In 1965, 2,849,843 non-resident vehicles crossed into the Niagara Peninsula, of these 1,681,034 entered and left on the same day, 1,168,809 stayed in Canada one night or more. (DBS 66-001, Travel Between Canada and the U.S., December 1965). As an indication of growth a doubling of traffic on the four bridges into the peninsula in a twenty-year period has been indicated by R. I. Wolfe, Recreation Travel in the Niagara Region, Department of Highways, 1962.

Analysis of the first three factors indicates that maximum development pressure is occurring in the Niagara Peninsula, Dundas Valley Sections of the escarpment with the Mt. Nemo - Caledon Mountain Section close behind. The analysis of cottage development and the United States tourist influx points to two special priority considerations of the peninsular sections: (1) the continued walling off of limited lakeshore access in the Bruce Peninsula by cottage development, and (2) the potential for development of recreational facilities in the Niagara Peninsula.

The above analysis of development pressure assumes no change in present trends. However, it should be borne in mind that trends may change owing (1) to greater publicity given one area over another (2) to change in recreational pursuits (3) to change in living patterns or (4) to increased investment in one area or recreational facility, over another, or for a variety of other reasons. Therefore, a priority rating must not only reflect development pressure but also incorporate the need to protect unique or special resources from any irreversible form of development.

#### 4.4.5. Priority Rating

Based on the above considerations of resource uniqueness and potential coupled with development pressure on these resources, a three stage priority rating is used:

- |                       |                                    |
|-----------------------|------------------------------------|
| <u>Priority One</u>   | - Action needed within four years  |
| <u>Priority Two</u>   | - Action needed within six years   |
| <u>Priority Three</u> | - Action needed within eight years |

#### 4.5. Escarpment Lands Selected

Following are the escarpment lands that have been selected on the basis of

TABLE 4(3)  
POTENTIAL ATTRACTION RATING

Section Area No.	Rating		Section Area No.	Rating	
	Section	Area		Section	Area
1.	5.3		5	7.1	
1.1		7.8	5.1		3.7
1.2		3.5	5.2		4.7
1.3		1.5	5.3		4.8
2.	3.3		5.4		3.8
2.1		4.8	6	10.0	
2.2		3.0	6.1		6.7
3.	3.3		6.2		2.8
3.1		4.0	6.3		4.5
3.2		1.7	6.4		10.0
3.3		2.2			
4.	1.5				
4.1		1.3			
4.2		0.7			
4.3		1.7			

TABLE 4(4)  
POTENTIAL ATTRACTION/ACCESSIBILITY RATING

Section	Travel Time in Hours		
	1	2	3
1. Niagara Peninsula	3.3	7.2	7.9
2. Dundas Valley	10.0	10.0	10.0
3. Mt.Nemo - Caledon Mountain	8.2	8.5	8.8
4. Hockley Valley - Devil's Glen	-	0.9	1.1
5. Georgian Bay	-	0.2	5.7
6. Bruce Peninsula	-	-	8.0



# POTENTIAL ATTRACTION RATING

## LEGEND

- SECTION BOUNDARY
- - - AREA BOUNDARY
- ▨ URBAN AREA



RATING	
▨	under 1
▨	1 - 2
▨	2 - 3
▨	3 - 4
▨	4 - 5
▨	6 - 7
▨	7 - 8
▨	9 - 10

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**NIAGARA ESCARPMENT STUDY**



the above criteria to meet the goals of the study. Each selection is described in terms of location, character, function, level of control and priority.

## 1. Niagara Peninsula Section

This section extends from the Niagara River to Highway 20 near Hamilton. The escarpment is a narrow linear feature dominating the landscape. Owing to the narrow width of escarpment lands and the pressure for development in the surrounding area, preservation of this relatively tenuous feature is of high priority.

### 1.1. Niagara Falls, Parkway Area

Character: This area includes Niagara Falls and associated scenery of international importance. It is the gateway area to Ontario for American tourists.

Function: The escarpment in this area is vital to the quality of the landscape along Highways 8, 405 and the Queen Elizabeth Way. Queenston Heights, and the salient at the QEW, Highway 405 Junction stand out most prominently.

#### Levels of Control:

- (2) Selective: Acquisition of controls over the escarpment should be extended from Queenston Heights to St. David's road. This would provide more land to the Niagara Parks Commission for recreational purposes, ensure proper landscape management at this gateway to Ontario, and prohibit building, quarrying, dumping and removal of natural vegetation. It would also provide for a pathway for the Bruce Trail and access for management purposes.

(Acreage: 1,040)

- (3) Regulatory: Controls over land use are necessary: (1) to protect the escarpment lands from adverse development; (2) to protect the view from the road; (3) to encourage development compatible to the maintenance of a high quality of environment. A special problem in landscape design will occur when the northern section of the Welland Canal is re-located. The crossing point of the canal and the escarpment, might provide the opportunity for an outstanding park development. Continuity of some elements of an escarpment park system such as a walking trail will face challenges.

Priority: Owing to the importance of the escarpment in providing the landscape attraction of Ontario's most important tourist gateway, and owing to the pressure for development of these lands to residential and quarrying purposes, and to the demand for recreational facilities, Priority One is assigned to the preservation of the escarpment in this area.

### 1.2. Short Hills, St.Catharines Area

Character: An area of scenic hills and valleys, historic sites and natural areas with potential for a major regional park to serve the Niagara Peninsula. Four sub areas are recognized: (1) the St. Catharines Escarpment, (2) Gibson Lake, (3) Short Hills, (4) Rockway Falls, Ball's Falls and Jordan Harbour.

#### 1.2.1. St. Catharines Escarpment

Character: A remnant of the escarpment encroached on by several forms of development.

TABLE 4 (5)

RANKING OF SECTIONS BY NUMBER OF DWELLING UNITS FOR  
WHICH PERMITS WERE ISSUED, AND BY NUMBER OF SUB-  
DIVISION APPLICATIONS RECEIVED IN 1966

Section	Ranking*	
	Dwelling Units <sup>1</sup>	Subdivision Applications <sup>2</sup>
1. Niagara Peninsula	9.2	10.0
2. Dundas Valley	10.0	6.6
3. Mt.Nemo - Caledon Mtn.	6.9	6.1
4. Hockley Valley - Devil's Glen	-	-
5. Georgian Bay	0.9	4.7
6. Bruce Peninsula	0.2	-

\* 10 represents the highest value

Source: 1. D.B.S. 64-203, Building Permits, Annual Summary, 1966

2. Department of Municipal Affairs.



*Rockway Falls*



Function: The remnant of the escarpment in St. Catharines is important to the landscape character of the city as a scenic element in the development of Brock University campus, the regional commercial centre and residential development.

Levels of Control:

- (2) Selective: Controls should be applied to delineated escarpment lands. These would include measures for scenic preservation and enhancement, and for pedestrian access.
- (3) Regulatory: Controls are necessary to ensure a compatible form of development in areas where the city is still developing towards escarpment lands.

Priority: Owing to the pressure of development on these lands they rate as Priority One.

1.2.2. Gibson Lake

Character: A hydro-electric power reservoir for the DeCew Falls power generating station, Gibson Lake, is both unsightly, at the eastern end, and scenic, at the western end.

Function: With proper landscape design it could provide an important element in enhancement of the landscape for residential development and for recreational purposes.

Levels of Control:

- (3) Regulatory: Land use controls should be applied to the lake and adjoining lands to realize the development potential of the lake.

Priority: Owing to development pressure, this action should be given a Priority One rating.

1.2.3. Short Hills

Character: This area has the greatest diversity in recreational resources and the best potential for parkland.

Function: The Short Hills provides special features with potential for a major regional park.

Levels of Control:

- (1) Complete: Acquisition of the land is recommended to control the nodal area where the several landscape resources meet. (Acreage: 950).
- (2) Selective: Scenic and access easements should be used to protect the lands around the acquired park area and to link it with the escarpment.
- (3) Regulatory: Development in the Short Hills should be carefully controlled to be compatible with and benefit from the character of the environment. Potential exists for large lot or cluster residential development, private recreational facilities and golf and country clubs. The area of control should cover the whole of the Short Hills sub area.

Priority: Owing to the pressure of development especially from ten acre lots for



*Northwest from The Escarpment near Grimsby*

residential purposes, action in this sub area is rated as Priority One.

#### 1.2.4. Rockway Falls, Ball's Falls, Jordan Harbour

Character: Fifteen and Twenty Mile Creeks cut across the escarpment creating scenic waterfalls and valleys that connect with the recreational resources of the Lake Ontario shore. The escarpment, the stream valleys and the Lake Ontario shore form elements in a possible recreational system.

Function: The special features of waterfalls and gorges and the role of the escarpment and stream valleys contribute to the outstanding landscape character of this sub area.

##### Levels of Control:

- (1) Complete: Acquisition of major distinctive natural features is recommended. (Acreage: 65)
- (2) Selective: Scenic and access easements should be applied to delineated escarpment lands and to the stream valleys, to give adequate protection to these features that determine the character of the environment. Private development, compatible to the purposes of landscape protection and recreational development, could be permitted under the terms of the easement in the stream valleys.
- (3) Regulatory: Extensive areas of regulatory control are necessary to maintain the outstanding quality of the environment in this sub area. Development along the stream valleys and between Highway 8, and the escarpment should be carefully planned to be compatible with the benefit from the character of the environment.

Priority: Owing to development pressure and demand for recreational facilities on the escarpment and stream valley lands, all actions to preserve the landscape character in this sub area are Priority One.

#### 1.3 Niagara Corridor Area

Character: The escarpment forms a nearly uniform narrow wooded bluff from Vineland to Highway 20.

Function: The escarpment plays a key role in providing for the character of the landscape in this area.

##### Levels of Control:

- (1) Complete: Acquisition of more land is recommended to provide for **parking** and recreational development areas around special features. (Acreage: 115)
- (2) Selective: Scenic and access easements should be applied to the delineated escarpment lands and to certain water courses crossing the escarpment. Some residential development has taken place on the escarpment near Beamsville and Grimsby and has been included in land for selective controls. This is necessary to achieve continuity of control along the length of the escarpment. In areas where the escarpment has formed benches, the upper level escarpment is considered the more important for control. (Acreage: 3,590).
- (3) Regulatory: Land use controls are necessary to protect the relatively

fragile nature of the tenuous escarpment feature. These controls should be extended down to Highway 8 in many places to protect the bench formations in front of the escarpment. Development must be compatible with the broader public purposes of protection of the escarpment.

Priority: Owing to development pressure all recommendations are Priority One.

#### Summary of Niagara Peninsula Section

- (1) Acquisition of 1,130 acres of land.
- (2) Easements on 6,700 acres of land.
- (3) Total Acreage 7,830.

## 2. Dundas Valley Section

The Dundas Valley is defined by the escarpment on both the north and south sides until the escarpment is buried in the western end of the valley. The valley contains both a large urban area and a near wilderness area containing rare plants and deer. Here is a unique opportunity to provide a developing urban complex with a major natural parkland setting.

### 2.1 The Valley Area

Character: A major natural parkland preserve containing wooded hills and streams, rare plants and deer yards adjoining the Hamilton urban complex. The physical elements that form this environment are: (1) the escarpment edges that provide definition of the valley, scenic waterfalls and viewing points (2) the watercourses draining the valley particularly Sulphur Creek, its headwater areas and tributaries (3) the low wetland areas of Cootes Paradise Marsh and the Royal Botanical Garden's properties.

Function: The Valley Area provides a unique natural area suitable for a major regional park and an environment for private residential and recreational development.

#### Levels of Control:

- (1) Complete: The escarpment and major sections of the Sulphur Creek drainage basin should be acquired as delineated. Careful attention should be paid to recognizing and acquiring those elements that are vital to the maintenance of the valley's environment and then adding lands necessary to proper administration and development. Key lands would seem to be those scenic points on the escarpment like Eulmer's Glen and those lands along the Sulphur Creek drainage course. Every attempt should be made to acquire control over the drainage system from the headwater areas to the Royal Botanical Gardens property. Maintenance of the quality of this stream will do much to prevent pollution and siltation of Cootes Paradise Marsh. Another area that should be acquired is Borer's Falls and the stream course to link the Royal Botanical Garden's Rock Chapel Creek and Valley Road Properties to Cootes Paradise Marsh. (Acreage: 3,500).
- (2) Selective: Scenic and access easements should be used to protect the escarpment and natural areas and drainage courses important to the valley's environment and to form access links between elements of the park system. (Acreage: 1,190).



- (3) Regulatory: All of the undeveloped portions of the Valley Area should be under regulatory control. Well planned development of a residential or recreational nature would benefit by a harmonious relationship to the unique opportunities this landscape affords. Such development would include large lot residential areas, cluster residential developments, golf and country clubs and private recreational facilities. There is at present a conflict between two public goals in this area: (1) the need to safeguard the valley's landscape character, and (2) the requirements of a highway network.

Priority: Owing to development pressure and the need for natural parkland in an urbanizing area action in this area is rated as Priority One for all levels of control. Action to achieve the above goals should begin immediately, though the scale of the programme will of necessity take several years.

## 2.2 Burlington Bay Area

Character: The escarpment provides a recreation resource in a metropolitan area and serves as a link between major parks. A thin remnant of escarpment land has been left through the City of Hamilton. This is traversed in several places by railroads and major roads which have destroyed much of the escarpment face, e.g. Highway 403, Kenilworth Access, and the Jolly Cut. The task is one of landscape improvement and maintenance and the development of pedestrian access. A more generous treatment should be contemplated for as yet undeveloped sections east and west of the city and on the north side of Burlington Bay which includes some of the ravine lands.

Function: The escarpment plays an important role in the landscape character and environment of the city. It also provides a green link between major parks and an important element in the diversity of the urban park system. In the Waterdown area it can provide a suitable landscape environment for future urban expansion.

### Levels of Control:

- (1) Complete: Land should be acquired to act as a link to the escarpment park system. (Acreage: 50).
- (2) Selective: Scenic and access easements should be acquired over delineated sections of the escarpment and ravine lands that cross the escarpment. Control over the ravine lands west of Red Hill Creek should be extended from the escarpment to the old Lake Iroquois beach at King Street. Grindstone Creek should be protected between the escarpment and the Royal Botanical Gardens by scenic and access easements. (Acreage: 1,340).
- (3) Regulatory: Land use controls should be applied to existing recreational facilities.

Priority: Action in this area is given a Priority One rating.

### Summary of Dundas Valley Section

- (1) Acquisition of 3,550 acres of land
- (2) Easements on 2,530 acres of land
- (3) Total Acreage 6,080



*Mount Nemo from Rattlesnake Point*

### 3. Mt. Nemo - Caledon Mountain Section

The Mt. Nemo - Caledon Mountain Section of the Niagara Escarpment Study Area is characterized by a series of salients and re-entrants from Burlington to the Caledon Hills where the escarpment is buried under glacial deposits. The escarpment varies from prominent bluffs and points and steeply cut gorges to extensive flat areas of shallow soils over bedrock. This section provides a variety of resources for recreational, residential and quarrying purposes.

#### 3.1 Rattlesnake Point Area

Character: The Rattlesnake Point, Mt. Nemo, Cedar Springs, Kelso area has a large recreational potential including scenic valleys and numerous viewpoints that could be developed into a major regional park. This area can be subdivided for convenience into three sub areas: (1) Mt. Nemo, (2) Cedar Springs (3) Rattlesnake Point. Though all these areas are closely interrelated, their features and recommended action vary.

##### 3.1.1 Mt. Nemo

Character: Mt. Nemo is a striking promontory dominating the Burlington landscape. The northern end is a sheer rock face, 250 feet or more high, while the southern end dips gently. The escarpment face is covered by vegetation. Mt. Nemo is an object to be viewed and provides excellent viewing points.

Function: Mt. Nemo is a unique feature and plays an important role in providing character to the landscape.

##### Levels of Control:

- (1) Complete: The Halton Region Conservation Authority has already purchased the prominent northern end of Mt. Nemo. Some rounding out of property may be necessary.
- (2) Selective: Scenic and access easements are necessary to maintain the continuity of escarpment lands and linkages for trails from Mt. Nemo southward to the Burlington Bay Area and from Mt. Nemo to Cedar Springs. (Acreage: 1,124).
- (3) Regulatory: Development along the delineated escarpment lands should not alter the natural character of these lands nor sever the continuity of the escarpment for a trail.

Priority: Owing to development pressure a Priority One rating is warranted.

##### 3.1.2 Cedar Springs

Character: This sub area encompasses the land lying between Rattlesnake Point, Mt. Nemo and East Flamborough. It is these valley lands dissected by Bronte Creek that form much of the scenery viewed from the two promontories. This sub area is also important for its agricultural land and for residential and private recreational development purposes. The Cedar Springs sub area is the focal point for a number of landscape corridors including escarpment features already mentioned, Bronte Creek, the route to Lake Mead and other stream valleys.

Function: The Cedar Springs sub area provides an environment of high quality for private recreational and residential development.





*Bruce Trail in Rattlesnake Point Conservation Area*



### Levels of Control:

- (3) Regulatory: The whole of this sub area should be put under regulatory control to maintain its quality of environment. Such control should preserve the various landscape corridors as green open space wedges to give character to this urbanizing area.

Priority: Owing to development pressures a rating of Priority One is recommended.

#### 3.1.3 Rattlesnake Point

Character: The Rattlesnake Point sub area comprises all the escarpment land to Highway 401 including the Milton outlier, Kelso Conservation Area, Crawford Lake and westward toward Kilbride. Recreation **resources** include spectacular scenic views from the top of the Milton outlier, water tributaries to the Oakville and Bronte Creeks, an outstanding ecologic area between the outlier and the main escarpment, an interesting fault line feature including Crawford Lake, forested land including cedar swamps and hardwood lots with a variety of mature trees, a variety of native flora, and small open pastureland. This area offers outstanding possibilities for a major regional park offering a variety of facilities from intensive recreation and natural parkland experiences to scientific and educational uses.

Function: The outstanding natural features of this area combined with the demand for such recreational features and the accessibility to major population centres in southern Ontario, dictate that there should be a major regional park developed in this area.

### Levels of Control:

- (1) Complete: Acquisition of a major regional park of some 2,310 acres is recommended. The Conservation Authority presently owns some 600 acres. (Acreage: 2,310)
- (2) Selective: Scenic controls and access over other lands around the escarpment edge of the Milton outlier and along sections of the Oakville Creek to Campbellville is recommended. (Acreage: 830)
- (3) Regulatory: Land use controls to ensure a form of development compatible to the neighbouring parkland and capable of benefiting from this parkland setting should be encouraged on top of the Milton outlier and in those areas north of the designated parkland to Highway 401.

Priority: It is of utmost importance that, given present development pressures, especially the rapid fragmentation of land into ten acre lots, the acquisition of parkland and land use controls be given Priority One status.

#### 3.2. Terra Cotta Area

Character: North of Highway 401 to the Caledon-Chinguacousy Township line the escarpment lands include extensive areas of thin soils and rock outcrops, sandstone benches and unproductive red clay soils. The escarpment face is poorly defined north of Highway 25. Sites of interest to public recreation include the remains of lime kilns at Limehouse presently owned by the Credit Valley Conservation Authority, the Georgetown outlier, and the sandstone benches, and red clay topography at Terra Cotta. The general landscape including the escarpment lands, the Credit River and tributary streams, and the picturesque country villages of Limehouse, Terra Cotta, Cheltenham, Boston Mills, etc., provide a potential for country estates, resorts,

and country clubs. The area is readily accessible to Toronto by Highways 7 and 10.

Function: The escarpment lands provide an environment for estate and resort development. Also, owing to the different escarpment profile in the form of the sandstone benches and red clay lands, a representative park area should be acquired.

Levels of Control:

- (1) Complete: Land should be acquired to secure a representative cross-section of the escarpment lands and to secure the water supply to the conservation park.  
(Acreage: 925).
- (2) Selective: Scenic and access easements should be used to secure the escarpment face and scenic valleys from Highway 401 to Highway 25.  
(Acreage: 770).
- (3) Regulatory: A broad band of land use controls is necessary to encompass all of the escarpment controlled lands and to maintain the character of these lands while permitting harmonious forms of development.

Priority: Owing to development pressures Priority One is assigned to securing the selective controls over the escarpment face, and to the regulatory controls in front of the escarpment north of Highway 401 and the area around Terra Cotta. Priority Two is assigned to lands west of the escarpment north of Highway 401 and to the acquisition of additional lands. Priority Three is applied to the regulatory controls covering the extensive but poorly defined escarpment lands in the Acton-Limehouse area.

### 3.3. Caledon Hills Area

Character: The Caledon Hills Area contains the unique scenic resources of the Forks of the Credit and the rolling landscape of the Caledon Hills. This setting provides an opportunity for an outstanding public park development and an opportunity for country estates, country clubs and rural residential areas. The area is easily reached by Highway 10.

Function: The Credit Forks, Caledon Mountain re-entrant provides some of the most spectacular scenery in Southern Ontario. The Caledon Hills provide an outstanding landscape environment.

Levels of Control:

- (1) Complete: A major regional park should be established in the area of the Credit Forks to include the face and rim of Caledon Mountain and the Credit River and gorge. Such a park would serve to relieve some of the public pressure for recreation facilities, already well apparent in this area. Acquisition of the river lands and escarpment face would place most of the outstanding features within the protection of a public park. It should be noted that the rim of the Caledon Mountain has been subdivided and sold in 2 to 8 acre parcels though no construction has proceeded at the time of writing.  
(Acreage: 1,070).
- (2) Selective: The development of land near Cataract should be controlled by purchase of scenic and access easements.  
(Acreage: 1,075).

- (3) Regulatory: The whole of the Credit Forks and Caledon Hills, not delineated for parkland acquisition or for scenic easements, should be under land use controls that will ensure a form of development that can best benefit from the outstanding landscape resource. Compatible development includes agriculture, country estates, country clubs and resorts and planned residential clusters.

Priority: Acquisition of land, easements and regulatory land use control in and around the Credit Forks is Priority One, owing to the development pressure and outstanding nature of the resource. Regulatory controls over Caledon Hills is Priority Two.

#### Summary of Mt. Nemo - Caledon Mountain Section

- (1) Acquisition of 4,300 acres of land
- (2) Easements on 4,070 acres of land
- (3) Total Acreage 8,370

#### 4. Hockley Valley - Devil's Glen Section

Throughout most of this section the escarpment is buried beneath glacial deposits called the Oak Ridges Moraine. The major scenic resources are associated with the river headwater areas where they cut through the escarpment and secondly where there is some rock outcropping. The rolling hills and valleys of this section are important recreation resources for the Metropolitan Toronto area; however, the escarpment as a feature plays a relatively minor role in the landscape.

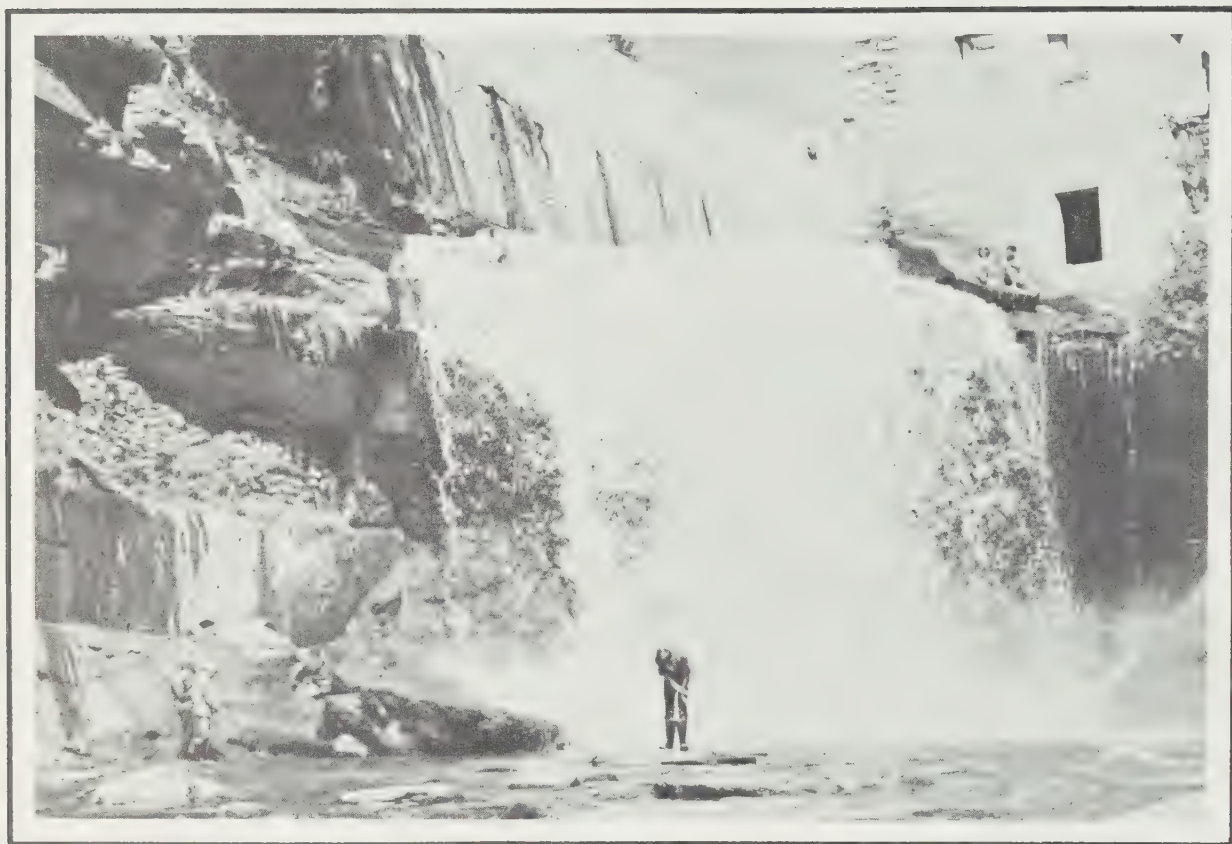
##### 4.1 Hockley Valley Area

Character: The Hockley Valley provides: (1) a well known scenic road through a wooded valley with attractive streams. (This provides landscape resources for winter and summer resorts.) (2) an interesting area of escarpment with fissure caves, gorge and viewing points at Mono Centre.

Function: The landscape resources of this area provide an opportunity for the development of a high quality recreational environment including public parkland and private resort development.

##### Levels of Control:

- (1) Complete: Near Mono Centre the Escarpment lands and special features associated with them should be acquired.  
(Acreage: 1,120).
- (2) Selective: Scenic easements should be acquired at the upper end of the valley. Final delineation of these lands will depend on more detailed study. It is essential for the preservation of this high quality environment that ribbon development along the road be prevented.  
(Acreage: 2,020).
- (3) Regulatory: The whole of the Hockley Valley and lands around Mono Centre should be under land use controls. Careful development planning of the Hockley Valley will yield a greater return from the scenic resources in



*Falls and Old Hydro Generating Station at Cataract*



the form of resort development than would a haphazard siting of cottages and rural residences. Land use controls are also necessary to maintain and develop compatible land uses in a corridor through the hills and valleys of this section to ensure a continuity of development along the path of the escarpment.

Priority: Acquisition and the use of regulatory controls over this area are Priority One owing to development pressures, particularly the fragmentation of land ownership into ten acre parcels. Acquisition of the escarpment land and easements in the Hockley Valley are rated as Priority Two.

#### 4.2. Horning Mills Area

Character: The escarpment is buried in this area. The major scenic resources are associated with the headwater of the Boyne and Pine Rivers. Country estate and cottage development is quite noticeable especially along the Pine River. Implementation of a proposal for a major provincial park at Primrose would secure an excellent representative area along the Boyne River headwaters.

Function: for the purposes of this study the area serves as a linkage between exposed escarpment features.

##### Levels of Control:

- (3) Regulatory: A corridor of land use control linking escarpment features is necessary to ensure maintenance of a representative landscape and allow for the functional requirements of a hiking trail or a scenic drive.

Priority: The action is rated as Priority Three.

#### 4.3 Noisy River Area

Character: The headwater gorges of the Noisy and Mad Rivers have outstanding scenic resources where these streams have cut across the escarpment. Opportunities for expanded public parkland exist here as well as the potential for private resort development.

Function: Special features of this area should be protected by the extension of public parkland.

##### Levels of Control:

- (1) Complete: The outstanding river, gorge, and waterfall features of these areas should be acquired, along with sufficient land for camping as well as sightseeing activities and for the preservation of historical features. (Acreage: 1,150).
- (2) Selective: Scenic, access and fishing easements should be acquired along stretches of the Noisy and Mad Rivers as far as the forks at the Creemore outlier. These stream oriented easements would be important adjuncts to the parkland acquisitions. In addition, the steep side of the Creemore outlier should be protected by scenic easement. (Acreage: 1,135).
- (3) Regulatory: A broad band of land use controls should be instituted to ensure maintenance and development of compatible uses around the purchased areas. The potential for economic benefits from private recreational resort development in harmony with provincial investment should be



*Credit River*

protected. Controls are also necessary to maintain the continuity of the escarpment lands.

Priority: Given relative development pressures along the escarpment, acquisition of the Noisy River headwater area and the use of regulatory controls should have a Priority Two rating. Acquisition of property for a Provincial Park and the acquisition of the various conservation easements are Priority Three.

#### Summary of Hockley Valley - Devil's Glen Section

- (1) Acquisition of 2,380 acres of land
- (2) Easements on 3,150 acres of land
- (3) Total Acreage 5,530

#### 5. Georgian Bay Section

The Georgian Bay Section is characterized by long valleys between promontories of the escarpment running towards Georgian Bay. This is the broadest part of the study area and contains some of the most striking scenery along the escarpment, including Pretty River Valley, the Blue Mountains, Beaver and Bighead Valleys.

##### 5.1 Blue Mountain Area

Character: This area contains some of the highest stretches of the escarpment, over 1,700 feet above sea level and over 1,000 feet above Georgian Bay. The spectacular landscape resources of this area are widely recognized as are its winter ski resorts. The Blue Mountain area may be divided into two sub areas for detailed consideration, (1) Pretty River Valley, Osler's Bluff and (2) the Blue Mountain.

##### 5.1.1 Pretty River Valley, Osler's Bluff

Character: The Pretty River Valley is a pocket-like valley in the highest part of the escarpment, providing excellent views from its rim and good fishing in its streams. Osler's Bluff is a salient of the escarpment noted for its views, flora and fauna and its winter resort development.

Function: The special features of this sub area can contribute significantly to the diversity of a park system based on the Niagara Escarpment. The concept for the landscape preservation and recreational development of this sub area involves, (1) the securing of key viewing and stream access points by land acquisition, and (2) the linking of these points with scenic, access and fishing easements along the rim and along the streams.

##### Levels of Control:

- (1) Complete: Key access and viewing points, with enough land for parking, public facilities and limited camping should be acquired.  
(Acreage: 126).
- (2) Selective: Scenic control easements to prevent building on important slopes, and to safeguard the scenic amenities of the valley, together with access easements along the rim and fishing easements along the streams should be purchased.  
(Acreage: 1,800).



*Escarpment Topography near Mono Centre*



- (3) Regulatory: Extensive regulatory controls over land use should be applied to this entire area. These controls should : (1) provide for the preservation of the scenic resource, (2) encourage private development in harmony with these scenic amenities that can yield the greatest long-run benefit to the Province.

Priority: Acquisition of the key access and viewing points is Priority One owing to the pressure of cottage and chalet development. Easements and environmental control are Priority Two.

#### 5.1.2 The Blue Mountain

Character: The Blue Mountain is the highest and one of the most striking features of the escarpment. It is widely acclaimed for its spectacular views and winter ski resort developments. This resource is a Provincial asset.

Function: The Blue Mountain is a unique area worthy of careful preservation as a scenic amenity and future development should be directed to yield the greatest return from the recreational potential.

#### Levels of Control:

- (1) Complete: Acquisition of two key viewing points with road access is essential so that the option for public enjoyment of the view from the top remains open. This option is rapidly being closed off by private cottage or chalet development. Other lands in the Blue Mountain should also be acquired if feasible.  
(Acreage: 195)
- (2) Selective: The slopes and rim of the Blue Mountain should be placed under a scenic easement to safeguard the landscape amenity. In particular, there should be no building on the slopes and vegetative cover should be maintained.
- (3) Regulatory: The whole of the Blue Mountain and Georgian Bay shore should be placed under land use controls. This will ensure the maintenance of a high quality environment and will aid in the development of the recreation resources of the area.

Priority: Acquisition of key viewing points on the rim of the Blue Mountain is a Priority One action owing to the rapid development of cottages and chalets. Purchase of easements and the development of land use controls are Priority Two.

#### 5.2 Beaver Valley Area

Character: The Beaver Valley is a major valley cutting some 22 miles back into the escarpment from Georgian Bay. It is renowned for its scenery, farming areas and winter ski resorts. Two sub areas will be examined: (1) the Beaver Valley from Flesherton to Epping, and (2) the Kolapore Uplands.

##### 5.2.1 The Beaver Valley

Character: A major scenic valley with good agricultural land north of Kimberley, ski resort development, excellent views from the valley rims and an extensive forested floodplain with special botanic resources. This valley is a Provincial asset.

Function: A unique area of the escarpment with features that can contribute to the



*Scotts Falls — Nottawasaga River*

diversity in a park system based on the escarpment. The concept for protecting the scenic resources of this valley is to: (1) secure the rim from which the views are obtained, (2) secure special features such as waterfalls, (3) protect steep slopes from erosion, (4) secure the floodplain and its ecologic resources for a "wild river" recreation experience.

#### Levels of Control:

- (1) Complete: Complete control should be acquired over key viewpoints on the valley rim where a small car park and viewing area can be developed. Sites should be acquired to protect views and waterfalls at the upper end of the valley. The floodplain of the Beaver Valley should be acquired for a "wild river". Some Conservation Authority property is already located in this area.  
(Acreage: 1,825).
- (2) Selective: The valley rim should be secured by scenic and access easements, and the valley slopes should be protected by a scenic easement preventing the erection of buildings and the removal of vegetation.  
(Acreage: 5,844).
- (3) Regulatory: The whole of the Beaver Valley area should be under land use controls to prevent haphazard development that would preclude the attainment of its potential as a major recreation-tourism area. Detailed planning is necessary to achieve this goal.

Priority: The securing of the key features of the Beaver Valley including the rim and valley slopes by fee simple or easement acquisition, the making of a development plan, and the application of regulatory controls are all Priority One. The pressures of uncontrolled development and the demand for the recreational resources the valley is capable of providing were the basis of this priority designation. Acquisition of the floodplain lands can be Priority Three provided that regulatory controls secure these lands from being built upon.

#### 5.2.2 Kolapore Uplands

Character: The Kolapore Uplands is an extensive area of near wilderness drained by Kolapore Creek. The area has the potential for a large natural park offering "wilderness" experience, fishing, camping, hunting, excellent views, a waterfall and fissure caves. A major camping site established in this area would be within a ten mile radius of the recreation resources of: (1) Beaver Valley, (2) Blue Mountain, (3) Craigleith Provincial Park on Georgian Bay, (4) Pretty River Valley and Osler's Bluffs, and (5) Devil's Glen. Camping at this site would provide an individual with a great variety of recreational options.

Function: A major natural park with special features centrally located in relation to the recreation resources of the Georgian Bay Section.

#### Levels of Control:

- (1) Complete: The acquisition of a major park.  
(Acreage: 7,800).
- (2) Selective: A fishing and an access and viewing easement should be acquired on the rim of the bluff.  
(Acreage: 496).
- (3) Regulatory: The whole of the uplands area should be under land use controls to ensure development compatible with the Provincial investment.





*Kimberly Rock and Adjacent Ski Lodge — Beaver Valley*



Priority: The acquisition of the special features in the area of the park is Priority One, as is regulatory controls. Acquisition of the rest of the parklands is Priority Three.

### 5.3 Bighead Valley Area

Character: The Bighead Valley Area which has a more natural character contains areas of biologic interest, fishing streams, extensive areas of escarpment face, drumlin fields, forests and waterfalls. These areas are extensive and widely dispersed.

Function: The special features of the Bighead Valley include areas for nature study, fishing and hunting. Selection of land for preservation was based on the above features and also on the functional requirements of preserving the dominant sections of escarpment for the use of a hiking trail.

#### Levels of Control:

- (1) Complete: Land should be purchased for a park which will include excellent fishing, a waterfall, escarpment land and botanic resources, (the Nature Conservancy has a virgin stand of trees on a 20 acre property). Also a small roadside pull-off and viewpoint overlooking the Bighead Valley should be acquired.  
(Acreage: 500).
- (2) Selective: The escarpment, where it is well defined on the west side of the valley, should be protected by scenic and access easements. The Conservation Authority already has a large holding at Bognor's Marsh. Fishing easements should be extended along Rocklyn Creek. A small bluff near Meaford, behind county forest on the Georgian Bay shore, should also be protected.  
(Acreage: 200).
- (3) Regulatory: Environmental controls are recommended to protect: (1) defined areas of escarpment, (2) designated streams, (3) natural parkland areas above and below the escarpment, (4) representative landscape for a continuous environmental corridor. Land use control should be applied: (1) where the Bruce Trail passes through the area, (2) around the county forest land at the southern end of the west side escarpment in order to provide an option for park development.

Priority: Protection on the bluff near Meaford is rated as Priority One. All other recommended action in the Bighead Valley Area is rated as Priority Two.

### 5.4 Owen Sound Area

Character: A multiple purpose recreation area can be developed using the resources around the City of Owen Sound and on the Sound itself. The resource elements include: (1) the excellent beach area at Leith, a first rate view point at Coffin Hill, fishing streams and sand hills, lend themselves to an intensive water oriented recreation development; (2) the steep escarpment face, streams and waterfalls around Owen Sound serve as a landscape backdrop and setting for the city while providing scenic trails and parks; (3) the upper escarpment on the west shore of the Sound including the Horseshoe Valley provides extensive wild areas for hiking, camping and nature study.

Function: Special features provide resources for a variety of recreation experiences contributing to diversity in a park system.



*Nature Conservancy of Canada Forest near Walters Falls*

### Levels of Control:

- (1) Complete: A concerted effort must be made to secure shorelands, especially in good beach areas. The finite shorelines are rapidly being walled off by relatively low intensity use - cottage development. One hundred cottages can seal off up to two miles of prime waterfront for about 360 people (about 28 feet of shoreline per person). The limited supply of shoreline coupled with rising demand is: (1) forcing up the price; (2) putting pressure on all shorelands irrespective of quality. A sizeable beach at Leith must be secured. The escarpment lands around Owen Sound should be acquired for their special features and their important role in protecting the landscape setting for the city. The Conservation Authority already has some property here; these holdings should be extended and linked. A small park is recommended at Bass Lake for camping, and road access to an escarpment hiking trail.  
(Acreage: 1,490).
- (2) Selective: Scenic and access easements should be used to secure specific sites.  
(Acreage: 2,450).
- (3) Regulatory: Land use controls to ensure development compatible with the study purposes should be placed on the designated areas, south of Owen Sound, and on the Horseshoe Valley to maintain its natural characteristics.

Priority: Owing to the special features of the recreation resources and especially the extreme urgency of securing shorelands all of the proposals in the Owen Sound area call for Priority One action.

### Summary of Georgian Bay Section

- (1) Acquisition of 11,930 acres of land
- (2) Easements on 13,500 acres of land
- (3) Total acreage 25,430

### 6. Bruce Peninsula Section

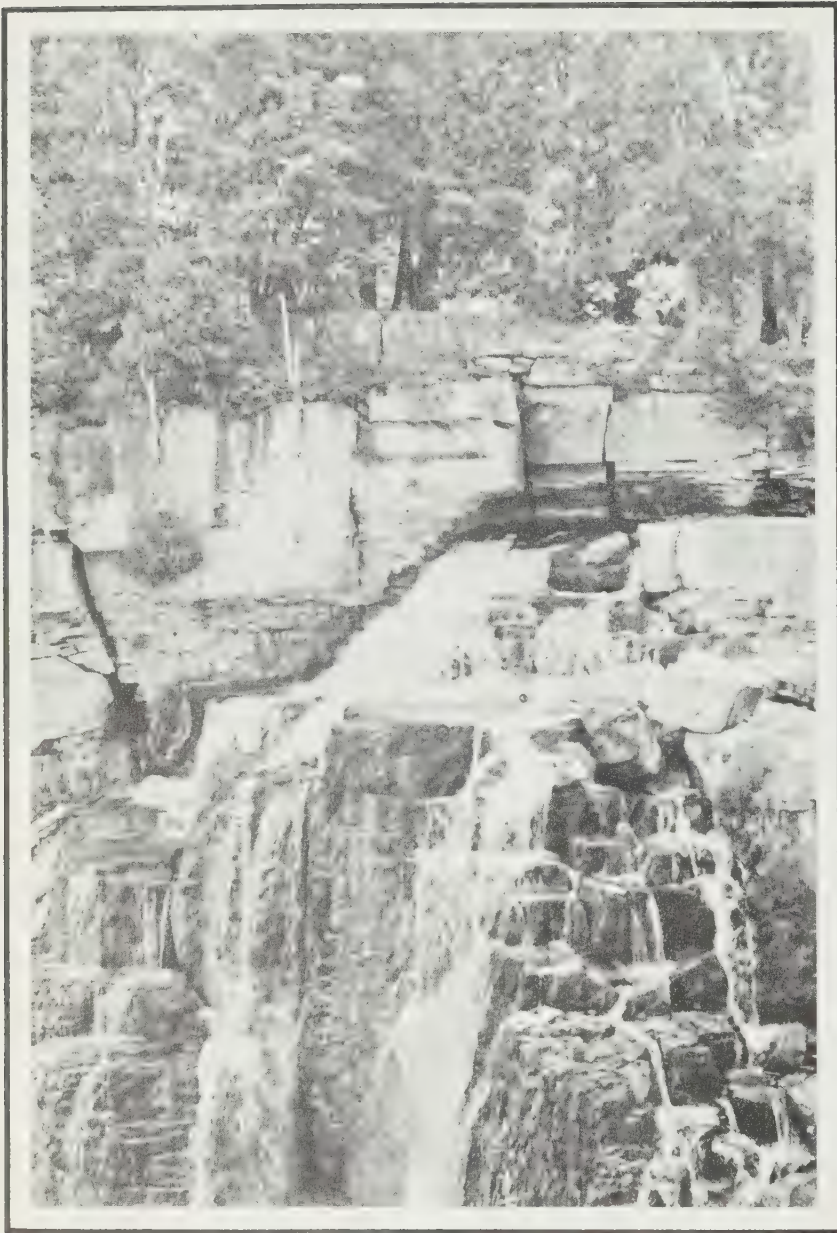
This section of the Niagara Escarpment forms a peninsula. The sheer face of the escarpment rises out of Georgian Bay to heights of 200 feet; on the top are extensive areas of rock outcrop, thin soils and inland lakes. This whole tableland dips gently westwards and disappears beneath the waters of Lake Huron. The Bruce Peninsula has unique natural and recreational resources of national significance.

#### 6.1 Colpoy Bay Area

Character: Water oriented scenery and beaches provide important recreational resources at this gateway to the Bruce Peninsula. The major elements are, (1) the upper level escarpment and (2) the escarpment on the north-west side of Colpoy Bay.

Function: The special features should be acquired as an addition to a park system. Recreational experiences that could be offered would include: camping, hiking, some magnificent views, nature study, and water recreation.





*Inglis Falls near Owen Sound*



The Colpoy Bay shore is important for its special features such as waterfalls and caves, and its role in the landscape.

Levels of Control:

- (1) Complete: The special features including shoreline should be acquired, also roadside pull-offs.  
(Acreage: 1,215).
- (2) Selective: Scenic and access easements should be acquired for selected escarpment lands including part of the Colpoy Bay shore on the north side; this latter to ensure some public access to water or Colpoy Bay.  
(Acreage: 2,650).
- (3) Regulatory: The whole of Cape Commodore should be placed under regulatory control to safeguard the landscape resources and to ensure compatible forms of development. Similar regulations should be placed on the escarpment bluff and shore just north of Wiarton.

Priority: Owing to development pressures for summer cottages, action for all levels of control around Colpoy Bay are rated as Priority One.

6.2. Indian Reserve Area

Character: The Cape Croker Indian Reserve has an outstanding number of recreation resources including: beaches, yacht basin, viewing points, skiing potential, and nature study areas. The Band is already developing a sizeable park based on these resources.

Function: The special features of the Indian Reserve have the potential for a major regional park development.

Levels of Control: Owing to the special status of Indian Reserve lands, no levels of control are applicable. However, because of the recreational potential of the Reserve the Band members should receive every encouragement to realize the recreational development potential of these lands.

6.3. Hope Bay - Dyer Bay Area

Character: The important features comprising this area are the Georgian Bay shore, the scenic grandeur of escarpment cliffs rising from the water, and the summer cottage development of available beach areas. A concept for the development of this area that would lead to better utilization of its scenic resources would be public control of the shoreline, providing long stretches of open and natural beach areas, with summer cottage development in planned clusters around service areas at Hope Bay, Barrow Bay, Lion's Head and Dyer Bay.

Function: The special features along the escarpment shoreline and the importance of shoreline acquisition make control of these recreation resources necessary for an escarpment park system.

Levels of Control:

- (1) Complete: Acquisition of special features on Barrow Bay would provide a small park area with limited camping, nature study and water recreation. The escarpment shoreline including rock formations and rare botanic resources between White Bluff and Cape Chin should be acquired and protected.  
(Acreage: 980).



*Colpoys Bay from Skinner Bluffs East of Wiarion*

- (2) Selective: The escarpment shoreline around Cape Dundas and Lion's Head should also be protected by scenic and access easements. (Acreage: 2,000).
- (3) Regulatory: Land use controls to provide for a high quality of cluster summer cottage development should be applied.

Priority: Owing to the pressures of cottage development all shoreline acquisition, selective controls, and regulations are Priority One.

#### 6.4. Tobermory Area

Character: The unique landscape, ecologic and recreation resources of Lindsay and St. Edmunds Townships are of national importance. These resources must be protected within a major park. Recommended acquisitions in this study indicate staging of action within this overall concept.

Function: Unique resources deserving of a major multipurpose park development.

#### Levels of Control:

- (1) Complete: Staging of land acquisition is recommended on the basis of the location of unique features and the apparent pressures of development for conflicting purposes. (Acreage: 29,600).

#### Staging:

- (1) Cyprus Lake - Dorcas Bay. Some key properties have been purchased by the Department of Lands and Forests and the Federation of Ontario Naturalists. A link across the peninsula and the securing of the unique shoreline, rock formations, viewpoints, and the ecologic areas on both sides of the peninsula, are of first importance.
  - (2) Special features and rock formations of the escarpment shore must be secured from the pressure of cottage development.
  - (3) At Dunks Bay space should be acquired for an intensive beach and water-oriented recreation development.
  - (4) George Lake, Emmett Lake. These inland lakes should be secured from cottage development to protect the unique ecologic resources of this area. A section of the Indian Reserve Hunting Grounds should be purchased if surrendered for sale by the Indian Band.
  - (5) All shorelines should be acquired as soon as possible in order to minimize the purchase of developed shorelines for park purposes. Acquisition of cottages and cottage lots will be necessary on some inland lakes and on the Lake Huron and Georgian Bay shoreline. After securing these areas of importance the rest of the lands necessary for the major park development envisaged should be acquired.
- (3) Regulatory: All of Lindsay and St. Edmunds Township should be placed under land use controls to: (1) ensure that there is no further development that would conflict with proposals for a major park and (2) to guide those areas for private recreational development such as at Tobermory. Tobermory in conjunction with proposed provincial investment at Dunk's Bay, could become an important recreational-tourism nucleus drawing people through the Bruce





*Gleason Brook at Oxenden*



Peninsula. A high quality of development is necessary to realize the long-run recreational and economic potential of the provincial investment.

Priority: Owing to the unique and irreplaceable nature of these resources and to the pressure for summer cottage development, a conflicting use in this area; all action in the Tobermory Area is rated as Priority One.

#### Summary of Bruce Peninsula Section

- (1) Acquisition of 31,800 acres of land
- (2) Easements on 4,650 acres of land
- (3) Total Acreage 36,450

#### 4.6. Summary

The total acquisition programme for complete and selective controls involves approximately 89,690 acres of land and \$31,428,000 (based on 1967 prices). Price escalation and administrative costs will raise the final figure.

The Sections and Areas examination of escarpment lands has identified the important resources essential for an escarpment park system. The possibility of developing such a system will be examined in the following chapter.



*Sydney Bay — Cape Croker Indian Reserve*

## CHAPTER 5

### THE NIAGARA ESCARPMENT AS A PARK SYSTEM

#### 5.1 The Park System Concept

##### 5.1.1 The Niagara Escarpment as a Unit

The escarpment has certain unifying characteristics that are recognizable from Queenston to Tobermory: (1) a steep slope rising above the surrounding land or water, (2) a rim providing viewing points, (3) water features, such as shorelines in the Bruce Peninsula, scenic river gorges and waterfalls, springs and water sources, (4) a forest cover except for occasional breaks, (5) and associations of soils, plants and animals found only along its length. These common characteristics identify it from surrounding lands.

The Niagara Escarpment constitutes an environmental corridor.<sup>1</sup> It is a recognized natural feature providing a unique combination of landscape, recreational and other resources, extending through the agricultural and urban development of Southern Ontario. The character of the escarpment as a natural parkland reserve, dictates that it should be planned as a unit, distinct from surrounding lands.

##### 5.1.2 The Concept

The landscape and recreational resources within the environmental corridor of the escarpment vary. The escarpment is a striking, well known feature in the Niagara Peninsula and the Blue Mountains. It is buried between Hockley Valley and Devil's Glen; apparent only in occasional rock outcrops of stream gorges and waterfalls. As the resources of the escarpment differ from area to area they should be considered and treated differently. The escarpment corridor borders on areas of different development pressures. This quality of different but interrelated resources and demands within the escarpment corridor indicated that the Niagara Escarpment should be treated as a park system.

The fundamental concept of a park system is:

"Within a given land area all parks, no matter how large they may be, or for what purpose they were established, are related to each other, to the use of resources in the landscape which includes them; and to the society which supports them."<sup>2</sup>

It is the purpose of this chapter to discover how the Niagara Escarpment as a whole may be planned according to this concept.

#### 5.2 The Proposals by Area as a Park Network

The recommendations arising from the analysis of Areas in Chapter 4 would provide a park system with: (1) unique or special features, (2) diversity for recreational pursuits, (3) a role in providing landscape character, (4) capability for servicing recreational demands.

##### 5.2.1 Unique or Special Features

The Area recommendations provide for the protection and use of unique or special features. The distinctive features of the Tobermory Area (6.4) and Niagara Falls Parkway Area (1.1) anchor the escarpment at both ends, and provide excellent



*Channel from Lagoon through Baymouth Bar, Barrow Bay*



introductory and terminal areas to the idea of an escarpment park system. Other unique and special features provide the basis for several park recommendations from large areas in the Rattlesnake Point Area (3.1) and the Beaver Valley Area (5.2), to single feature reservations in the Niagara Corridor Area (1.3). The size of the area depends on the importance, number and concentration of special features. In this way, the park recommendations are related to the resources of the escarpment.

## 5.2. Diversity for Recreational Pursuits

A park system must also provide for a variety of recreational pursuits. The resources of the escarpment providing for this diversity have been identified and recommendations made to this purpose. Some examples are:

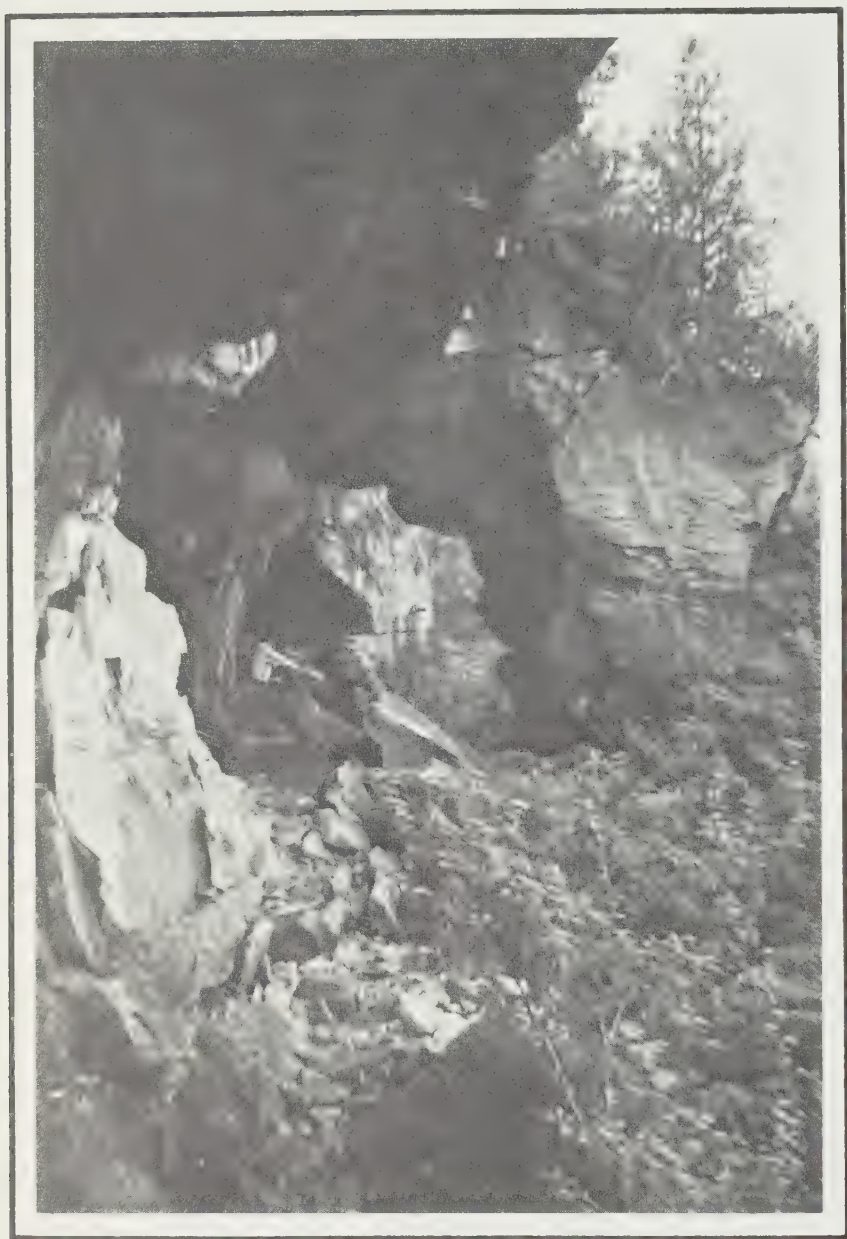
- (1) Selective and regulatory controls to provide for private investment in skiing facilities, e.g. Hockley Valley (4.1) Blue Mountains (5.1).
- (2) The possibility of protecting a "wild river" for canoeing, e.g. Beaver Valley (5.2).
- (3) Access easements for fishing and hiking, e.g. the Pretty River Valley in the Blue Mountain Area (5.1).
- (4) Acquisition of natural parkland for nature study, hunting and "wilderness" camping, e.g. the Kolapore Uplands, Beaver Valley Area (5.2).
- (5) Acquisition of unique ecologic areas for educational and scientific purposes, e.g. the Dundas Valley Area (2.1), Rattlesnake Point Area (3.1), Tobermory Area (6.4.).
- (6) Access to the waterfront for intensive beach development and for natural shoreline, e.g. Owen Sound (5.4), and Tobermory (6.4).
- (7) Provision for roadside pull-offs at key viewing points.
- (8) Multi-purpose parks for picnicking, swimming and camping, e.g. Rattlesnake Point Area (3.1), Short Hills (1.2), Indian Reserve (6.2), Tobermory Area (6.4).
- (9) Land acquisition and easements for the development of trails for hiking, and the parkland capability for horseback riding and bicycle trails.
- (10) One of the most important attributes the escarpment provides is scenery for sightseeing.

All of the above pursuits can be incorporated into the development of the Niagara Escarpment as a parks system. The development form will depend on the carrying capacity of the resources already identified, the areas selected for their protection, and the public demand for various recreational pursuits.

A Niagara Escarpment park system could provide facilities for day-use close to urban areas, weekend use in highly accessible areas and vacation use in areas with unique resources such as the Bruce Peninsula.<sup>a</sup> The escarpment can, and does play an important role in providing day-use areas in St. Catharines and

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<sup>a</sup>This temporal demand for open space is a factor in determining the priorities of Chapter 4.



*Greig's Caves near Barrow Bay*

Hamilton. Large parks for weekend use, accessible from major urban centres are located in the Rattlesnake Point Area (3.1), and the Valley Area (2.1). The Provincial Park in the Short Hills, St. Catharines Area (1.2), will be accessible to the regional urban population and the influx of United States tourists. The unique resources of the Beaver Valley Area (5.2), Indian Reserve (6.2), and Tobermory Area (6.4) can attract the vacationer and tourist.

A design for a park system must relate these differing demands and intensities of use with the capabilities of the resources of the system as a whole. The recommendations provide the resources for this possible future park system design.

### 5.2.3 Provision of Landscape Character

The escarpment plays a dominant role in the total landscape character by serving as open space in urban communities, e.g. Burlington Bay Area (2.2), as a green backdrop defining the limits of farmland, e.g. Niagara Corridor Area (1.3), and in the provision of focal points of interest, e.g. Rattlesnake Point, Mt. Nemo Area (3.1), Blue Mountains (5.1), the shorecliffs in the Bruce Peninsula Section (6). The escarpment lands also provide the opportunity to develop home sites, country clubs and resorts in high quality scenic settings. However, great care must be exercised in siting of buildings and in developing an overall pattern that will reap the potential scenic rewards in such areas as the Valley (2.1), and Caledon Hills (3.3). New forms of development need to be used such as cluster housing to break loose from the present gridiron or highway strip development approach.

The study recommendations protect the important landscape features of the escarpment by the use of complete and selective controls and provide for harmonious development in areas under regulatory controls. The escarpment provides enough diversity of land forms so that a wide range of private developments can be built with different characteristics, if the developer is sensitive to the scenic character provided. Such development could include urban subdivisions, cottage and chalet development, country estates and country clubs and the maintenance and improvement of viable farming operations.

## 5.3 Linking the Park System

### 5.3.1 Circulation

In order for a park system to function it must have a system of circulation. The important links are roads as the majority of people will travel throughout the system by automobile. The traffic system must: (1) function efficiently in terms of time and cost, (2) be in harmony with the resources it is linking. However, where the resource is fragile it is possible for traffic circulation to overwhelm or destroy it.

Following are some considerations to be followed in designing a circulation system:

- (1) Niagara Peninsula Section: The escarpment resource is a narrow, fragile, lineal parkland feature. Preservation of this feature is most important. Therefore, a circulation system would try to reinforce this concept. Traffic arteries paralleling the linear escarpment feature would stand far enough back from the escarpment to lessen the impact of construction, development, visual disturbance and noise. Special features can be approached by a cul-de-sac or dead-end road from the parallel traffic artery.



*Escarpment Cliffs — Lions Head*



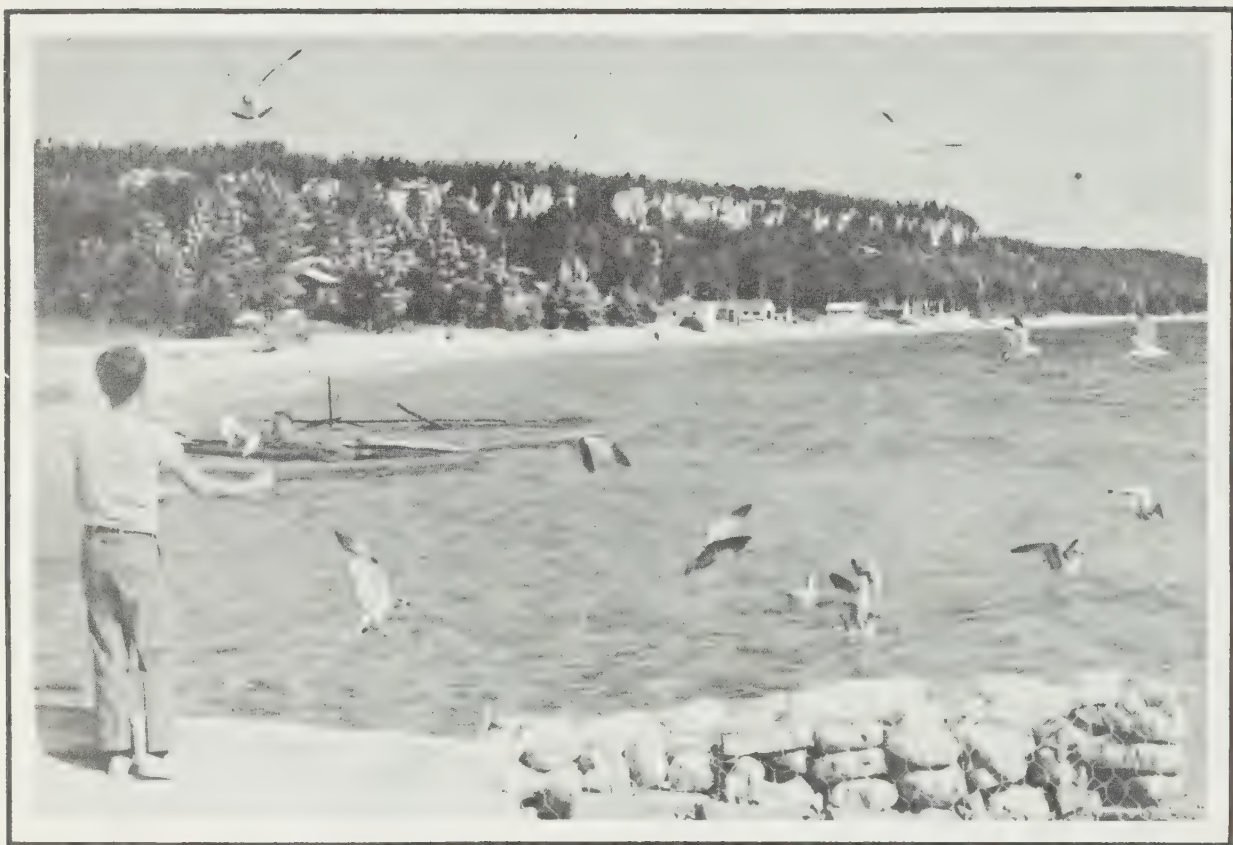
- (2) Dundas Valley Section: The resources here may be characterized by a pocket, with escarpment forming the rim, viewpoints, and waterfalls. The valley floor above Dundas is natural parkland and should not be disturbed. A circulation system would link up special features on the rim but not disturb the interior.
- (3) Mt. Nemo - Caledon Mountain Section: The character of the escarpment in this section is that of salients and re-entrants. The circulation system would reflect this by having main arteries paralleling the general direction of the section. Side roads would lead to viewing points on top of the salients or into the scenic valleys of the re-entrants.
- (4) Hockley Valley - Devil's Glen Section: In this section the escarpment is buried under very hilly countryside. The large scale of this scenery and its extensive nature provide ample scope for a scenic drive to wander the countryside with a minimum of adverse impact on the rural character.
- (5) Georgian Bay Section: The importance of the recreational features in this section and the extensive area in which they are located provide opportunities for internal circulation systems. A nodal point could be developed on the Kolapore Uplands (5.2.2), and links extended to other features such as the Blue Mountain, Beaver Valley and Pretty River Valley. The major artery would link the major nodal points. In Owen Sound the rim features could be treated in much the same way as they were in the Dundas Valley.
- (6) Bruce Peninsula Section: The whole of the Bruce Peninsula provides resources for a recreational environment. The circulation pattern here may be a spinal artery with side roads ending at specified recreational service areas. A loop may be formed at the end of the peninsula. Care should be taken so that special features are protected. Such a loop should not be formed until the land has been acquired for a park. Cul-de-sac and dead-end roads can be extended from the loop to features.

Existing road networks can be used to achieve most of this circulation system. Some upgrading may be necessary. If carefully designed and implemented, such a traffic circulation system would knit the escarpment parks together, establish the escarpment park system as a unit to the public, and aid in the preservation of certain features of the park system.

### 5.3.2 Tri-County - Niagara Escarpment Scenic Drive

The Niagara Escarpment Scenic Drive<sup>3</sup> is the first well planned proposal to treat the Niagara Peninsula Section of the escarpment as a unit. If the proposals of the Tri-County Committee are implemented as planned they will provide Ontario with a unique asset to recreation-tourism development.

Owing to the differences in purpose of the Niagara Escarpment Scenic Drive and the present Niagara Escarpment Study some reconsiderations of the scenic drive proposals are necessary. It is the goal of the Niagara Escarpment Study to preserve the natural parkland character of the escarpment in the Niagara Section. This resource is a tenuous and fragile band of escarpment from Niagara Falls to Hamilton. In order to meet this goal the recommended circulation system is one where the heavily travelled main links paralleling the escarpment would be at a distance from the natural parkland and where loop and dead-end roads would extend from the main



*Dyer Bay*

paralleling link to specific features on the escarpment. In this way the natural character and carrying capacity of the escarpment resources would best be protected.

Areas of incompatibility between the purposes of the drive and of preservation of the natural character of the escarpment may occur where: (1) the drive crosses the escarpment face; (13 times entailing 7 new cuts for a distance of 1.5 miles), (2) where the drive is on the escarpment rim (11 miles or 25% of the length), (3) close to the Bruce Trail (8 new crossings and in close proximity for 8 miles), (4) disturbance of the talus slope and vegetation at the escarpment's foot.

The two studies are mutually supporting in acquisition of specific features of the escarpment. Most important, they are agreed that the length of the escarpment must be protected by some form of public control. Implementation of the Niagara Escarpment Scenic Drive with some design alterations to achieve greater protection of the natural parkland character of the escarpment would be one of the best ways for overall protection and recreational use of this key section of escarpment.

### 5.3.3 The Bruce Trail

In 1960, a citizens' committee was formed to study the feasibility of a hiking trail from Queenston to Tobermory along the Niagara Escarpment. The Bruce Trail Association was incorporated, March 13, 1963, to encourage and assist in the construction of the Bruce Trail.<sup>4</sup> In Canada's Centennial Year, 1967, this association of hiking enthusiasts had completed a marked, standardized hiking trail from one end of the escarpment to the other. For the most part, the trail's route is across private property or on road allowances. The crossing of private property depends on a "gentleman's agreement" between the Association and the landowner. The four hundred mile hiking trail resulting from the voluntary efforts of the Bruce Trail Association and co-operative landowners has provided Ontario with a major recreational asset. This trail is in keeping with the natural parkland character of the escarpment.

The continued existence of this asset is in jeopardy. Rapid subdivision of land into small holdings is multiplying the number of "gentleman's agreements" to be made and creating development pressures incompatible with the natural parkland character of the escarpment. Prompt action is required to save this asset for the people of Ontario.

The recommendations in Chapter 4, provide for adequate controls for securing the trail for the majority of its route. The scenic and public access easements, together with the areas of acquisition in fee simple, provide a framework for the maintenance and improvement of the trail. However, there are some 75 miles of trail on private land not associated with special features of the escarpment. These sections of trail should be secured by the acquisition of an easement for a public pathway. This pathway should be protected by scenic easements where necessary. The pathway easement should be 10 feet wide. The ten-foot width would allow for the usual construction standards of the trail to be applied. It is understood that the trail will be for pedestrian use only. The cost of an easement for a ten-foot wide pathway for 75 miles is approximately \$15,000, or \$200 per mile.

Trail shelters are usually constructed every seven or eight miles according to some Appalachian Trail construction standards.<sup>5</sup> This allows family groups to travel in shorter stretches than the experienced hiker who can double these stretches to 15 miles. The recommended park locations in Chapter 4, allow for shelters to be constructed at approximately ten-mile intervals on public land with two gaps, one in the Horning Mills Area and one on the west side of Colpoy Bay.





*Middle Bluff from Across Wingfield Basins*



These and other more convenient sites should be selected by field inspection.

Maintenance of the trail could be left to the local volunteer clubs. The Bruce Trail is an important linkage element in the concept of a Niagara Escarpment Parks System and should be supported.

#### 5.4 The Emerging Park Concept

Given: (1) the resource capabilities of the escarpment to fulfil a variety of recreational demands both in terms of facilities and in terms of day, weekend and vacation use, (2) the demands on escarpment lands for these uses and, (3) a circulation or linkage system for recreational traffic, it is possible to design a Niagara Escarpment Parks System. Such a design would take more research time than was available to this study group. However, one concept of how the system may emerge is shown on the map: A Concept of a Niagara Escarpment Parks System. The system should contain: major multi-purpose parks, feature areas, predominant scarp, a circulation system, pressure points and the Bruce Trail. These are described briefly as follows:

##### 5.4.1 Parks

- (1) Major Multi-purpose Parks: The system concept contains eight such parks. These parks are located to safeguard special features of the escarpment and to provide a variety of outdoor recreational facilities. The administration of these parks may vary with the character and nature of facilities. The major multi-purpose parks are as follows:

Niagara Parkway. The internationally renowned Niagara Parks Commission's parks system, is already the major recreation attraction in the Niagara Peninsula. This system should be expanded to include a proper introduction to a Niagara Escarpment Parks System.

Effingham, Short Hills. A natural parkland area capable of providing the much needed camping and picnicking facilities designed to serve the Niagara Peninsula population and influx of tourists from the United States. The Department of Lands & Forests has already acquired land in this area.

Dundas Valley. There is a resource capability to provide a large natural parkland area adjacent to a major urban complex. The key resource to be protected is the drainage basin of Sulphur Creek. The Royal Botanical Gardens has substantial lands in Cootes Paradise Marsh and, therefore, a vested interest in water quality control in Sulphur Creek. The Hamilton Region Conservation Authority has taken the initiative in negotiation for lands, in the Dundas Valley and has water conservation as part of its programme. The two public bodies could co-operate to achieve a park asset of Provincial importance.

Rattlesnake Point. This extensive parkland resource is located at the point of maximum accessibility on the Niagara Escarpment. The Halton Region Conservation Authority already has substantial lands in this area and with help could provide a park resource to serve several urban centres including Kitchener-Waterloo, Toronto and Hamilton.



*Old Schooner and West Bluff — Wingfield Basin*

Credit Forks. The Credit Forks has special features that are already proving an attraction to residents of metropolitan areas. A major park should be established to safeguard these features and to provide for better public access to them. The Credit Valley Conservation Authority has a small park at Belfountain. The recreational resources of the Credit Forks are a Provincial asset and should be accorded due concern, and, therefore, be included in the Provincial Parks System.

Blue Mountain, Beaver Valley. This complex of outstanding recreational resources could prove to be one of the most important recreation-tourism assets in the Province. The organization of this recreational complex depends on having a large park area for general outdoor recreation pursuits on the Kolapore Uplands and a good circulation system to the special features of the Blue Mountain, Pretty River Valley and Beaver Valley. The development of this potential recreational complex is of Provincial importance and should be within the Provincial Parks System. Much pioneer work has been done by the North Grey Region Conservation Authority, and certain special features should continue to be their concern, e.g. the "wild river park" in the Beaver Valley. Co-operation with private recreational investment is also desirable to achieve the maximum public benefit.

Cape Croker Indian Reserve. The Indian Reserve contains significant recreation resources capable of being developed into an important major park in the system. The Band members have already started a large park development. Aid should be given to the Band to achieve the recreational potential of these lands under Band management.

Tobermory. The unique natural resources of this area are of national significance, and should be preserved within the Provincial Parks System for public enjoyment and for scientific and educational purposes. A multi-purpose park in the Bruce Peninsula would be a fitting terminal area and of sufficient magnetism to draw people through the Niagara Escarpment Parks System.

- (2) Feature Areas: There are many locations along the escarpment that contain special features essential to the building of a parks system. These may be single features such as a waterfall or viewpoint, or they may be found in combination. These features should be acquired for their protection and for public enjoyment. In many places provincial and local authorities have already acquired some lands. These holdings should be extended to ensure protection of the resource. Examples of feature areas would include: Ball's Falls managed by the Niagara Peninsula Conservation Authority; Terra Cotta where a conservation area operated by the Credit Valley Conservation Authority is located; Scott's Falls in the Nottawasaga Valley Conservation Authority's jurisdiction; Noisy River Valley where there are lands managed by the Department of Lands & Forests; Inglis Falls Conservation Area in Owen Sound operated by the North Grey Region Conservation Authority. Certain special features should be developed by private enterprise within an overall plan. The ski slopes on the Blue Mountains and in Beaver Valley fall into this category, as do the recreational villages in the Bruce Peninsula.



*Tobermory*



- (3) Predominant Scarp: Where there is a well defined escarpment face and rim providing viewing areas and a striking landscape feature, the delineated area should be protected and public access acquired.

#### 5.4.2 Circulation System

The circulation has been described in some detail in a foregoing section. The map illustrates what such a system might look like on a conceptual basis. The linkages shown are not road locations, though the existing road network might be upgraded to provide linkages on this conceptual basis. Such road linkages must not damage the natural parkland character of the system.

Pressure points identify those areas which will experience increased traffic volumes from the metropolitan areas, via the Provincial Highway System.

The Bruce Trail has a key role in the circulation system by providing a linkage compatible with the natural parkland preservation.

#### 5.5. Conclusion

The emerging concept of a Niagara Escarpment Parks System can satisfy the goals of safeguarding the natural parkland assets of the escarpment and of providing for greater public enjoyment of these resources. Such a system could be designed to yield excellent recreational and economic benefits to the people of Ontario. The co-operation of all levels of government, government agencies, and private groups within an overall plan is necessary to achieve the recreational development potential of the Niagara Escarpment.

## CHAPTER 6

### IMPLEMENTING AN ESCARPMENT PROGRAMME

#### 6.1 Lands Delineated

A preservation programme for the Niagara Escarpment has been built up by considering land requirements for each section, and for the entire region viewed as a continuous park system. An overview of the proposals that emerge can be obtained from the report maps on Proposals by Levels of Control, and on Priorities, and Table 6(1) which presents figures on acres and costs by levels of control and priorities for the defined Escarpment sections. Some of the highlights that emerge are as follows:

The close to 90,000 acres delineated for some form of acquisition is distributed amongst the six sections of the Escarpment as follows: Niagara Peninsula, 8.7%; Dundas Valley, 6.7%; Mt. Nemo-Caledon Mountain, 9.3%; Hockley Valley - Devil's Glen, 6%; Georgian Bay, 28.3%; Bruce Peninsula, 41%.

Of this total, 61% is delineated for fee simple acquisition, and 39% for selective control, by easement agreements with landowners or by other appropriate means (e.g. leasing) to acquire a negative right in a property, such as the exclusion of specific uses (e.g. by scenic easement), or a positive right such as public access (e.g. access easement).

A third level of control is applied to an additional 300,000 acres, which is a regulatory environmental control, intended where it is prescribed to act as an envelope over the entire Escarpment belt, including lands designated for purchase, easements, etc. It is a form of control suggested (1) where the Escarpment is a narrow, well defined edge, to back up selective control areas (e.g. the areas between Highway 8 and the foot of the Escarpment in the Niagara Peninsula), and to protect outstanding adjacent environments, such as the Short Hills area, and (2) where the Escarpment becomes the spine of a broad wooded hilly countryside with high recreation potential, mainly in the Hockley Valley - Devil's Glen and Georgian Bay Sections and the northern part of the Bruce Peninsula.

Forty-six percent of the land delineated for purchase and selective control, representing 80% of the total estimated cost of the programme (i.e. \$25,185,000) is assigned to the first priority; 42% of the land and 13% of the cost to the second priority and 12% of the land and 7% of the cost to the third priority. (See Table 6(1))

All of the land delineated in the areas involving controls of the first two types, in the Niagara Peninsula and the Dundas Valley are assigned to Priority One, because of high development pressure and in most areas the tenuous, ribbon-like nature of the Escarpment. The Hockley Valley - Devil's Glen Section accounts for only .1% of the first priority lands, although the entire Hockley Valley is designated as an area that needs environmental controls at the earliest possible date. The Georgian Bay and Bruce Peninsula sections account, respectively,

TABLE 6(1)

SUMMARY OF ACREAGE AND COST OF ACQUISITION  
ACCORDING TO PRIORITY AND LEVEL OF CONTROL

Sections	Priority	Level of Control	Number of Acres	Cost \$
1. Niagara Peninsula	1st.	Complete	1,130	1,837,000
	1st.	Selective	<u>6,700</u>	<u>6,430,000</u>
	Total		7,830	8,267,000
2. Dundas Valley	1st.	Complete	3,550	4,276,000
	1st.	Selective	<u>2,530</u>	<u>2,395,000</u>
	Total		6,080	6,671,000
3. Mt. Nemo - Caledon Mountain	1st.	Complete	3,380	2,152,000
	1st.	Selective	<u>4,070</u>	<u>1,490,000</u>
	Total		7,455	3,642,000
	2nd.	Complete	920	463,000
4. Hockley Valley - Devil's Glen	1st.	Complete	100	25,000
	2nd.	Complete	1,470	368,000
	2nd.	Selective	<u>2,020</u>	<u>202,000</u>
	Total		3,490	570,000
	3rd.	Complete	810	204,000
	3rd.	Selective	<u>1,135</u>	<u>114,000</u>
	Total		1,945	318,000
5. Georgian Bay	1st.	Complete	2,635	1,048,000
	2nd.	Complete	500	100,000
	2nd.	Selective	<u>13,500</u>	<u>1,758,000</u>
	Total		14,000	1,858,000
6. Bruce Peninsula	3rd.	Complete	8,800	1,840,000
	1st.	Complete	12,400	5,000,000
	1st.	Selective	<u>4,650</u>	<u>532,000</u>
	Total		17,050	5,532,000
	2nd.	Complete	19,400	1,195,000

TABLE 6(1) - Continued

Sections	Priority	Level of Control	Number of Acres	Cost \$
	TOTAL 1st.	Complete	23,195	14,338,000
	1st.	Selective	<u>17,950</u>	<u>10,847,000</u>
			41,145	25,185,000
	TOTAL 2nd.	Complete	22,290	2,126,000
	2nd.	Selective	<u>15,520</u>	<u>1,960,000</u>
			37,810	4,086,000
	TOTAL 3rd.	Complete	9,610	2,044,000
	3rd.	Selective	<u>1,135</u>	<u>114,000</u>
			10,745	2,158,000



for 6.4% and 19% of Priority One lands.

Implementing the proposed programme of land acquisition and control will involve an average annual expenditure of \$6,296,000 for the four-year period of Priority One; approximately \$2,045,000 for each of the following two years in Priority Two; and \$1,075,000 in the final two years in Priority Three.

In addition to \$31,428,000 for the acquisition of fee simple, easements, etc., an amount of \$15,240 will be required to purchase 10-foot linking easements for the Bruce Trail. These will be acquired wherever the trail right-of-way is not obtained by the general acquisition proposals in each section.

Priority One has been given a longer period, four years, than the other priorities, two years, because of the anticipated need to take certain preparatory action, e.g. easement legislation, studies of areas to designate zoning districts and standards, etc. Where early action is possible, however, it is suggested that control of Priority One lands be treated as a matter of the greatest possible urgency. Accordingly, it is suggested that funds for land acquisition be made available as soon as this report is adopted by the Government, that steps be taken to purchase all first priority land which (a) is under option (by the Department of Lands and Forests, Conservation Authorities, etc.) at that time, (b) has been referred to the Niagara Escarpment Study during its research phase, or (c) which has been under option during the six-month period preceding the date of adoption.

In addition, it is recommended that all land designated for complete control in any of the three priority periods be acquired, without delay whenever it is established that said land, (a) will be severed by subdivision or description, or (b) will be subject to a change in use, in the direction of greater intensification of development.

## 6.2 Some Specific Issues

### 6.2.1 The Queenston Area

A number of specific aspects of the proposals require separate comment. Reference has been made in Chapter 4(1.1) to the "gateway" function of Highways 8 and 405, from Queenston to Q.E.W. Within this highly conspicuous and exposed location, between the two highways, there is the site of the Queenston Quarry which is the only operation in the Province mining building stone from dolomite of the Lockport Formation and sandstone of the Whirlpool Formation. It is suggested that quarrying under suitable standards, and controls on the extension of operations be continued.

### 6.2.2 The Dundas Valley and the Dundas By-Pass

The next area of special concern is the Dundas Valley. It has been given high priority because of its position in a highly dynamic and populous metropolitan area, and a considerable part of it is delineated for either complete or selective control, because it meets, not some, but all of the twelve "delineation criteria" outlined in Chapter 4(4.2.1 and 4.2.2). The Valley has recently become the subject of contentious public debate due to the proposal of the Department of Highways to traverse the Valley with a highway by-pass (the Dundas By-Pass). It is not the role of the Niagara Escarpment Study to adjudicate this issue. It is, however, quite clear that this is a case of two overlapping public purposes, requiring an independent arbiter who will judge the issue in terms, not of single function, but of the

overall, long range public benefit. Fortunately, there is a body within the structure of the Provincial Administration which was set up for this purpose. It is recommended that consideration of the location of the Dundas By-Pass be given high priority by the Advisory Committee on Regional Development - the body to which this report will be referred.

### 6.3 Proposals, Extractive Industry

The proposals concerning the location and standards of operation of extractive industries are presented in Appendix 4, Proposals for an Enactment to Regulate Surface Mining in the Niagara Escarpment Study Area. Five major policy areas are considered.

- (1) Provincial standards should be prepared and applied consistently wherever extractive activities are permitted. These standards should have regard both to minimizing friction with surrounding land uses, and taking advantage of the opportunities for the creative reshaping of the landscape after extraction is completed.
- (2) To minimize future conflicts between recreational and extractive uses of land in the Study Area, a licensing system is proposed, requiring the operator to provide a legal description of the property on which extraction will occur, and of all properties held for future extractive use.
- (3) The central concept of the proposed provincial code is the site development plan, which each new operator, and existing operators, after suitable notice, will be required to file as a condition of carrying on extractive activities. This plan will show intended uses for the site during and after extraction, and embody performance standards related to the screening of the site by means of planting and the use of overburden, the removal of earth materials, safety, depth of excavation in relation to watertable, and other similar provisions. Some illustrations of site treatment accompany this chapter.
- (4) To ensure that site development plans will be carried out, in accordance with field plans, the operator would be required to post a performance bond, or to remit a similar amount to an industry controlled site development fund (if such exists). The amount of the bond for remittance would be based on tonnages of extracted material.
- (5) For the regulation of extractive activities, three zones are proposed for the Study Area: an inner zone, two miles wide, centred on the Escarpment face (or a designated line where the face is under glacial debris); and two outer zones, one on each side of the inner zone, extending to the outer edge of the Study Area. Regulations for the inner zone are designed to permit the continuation of established operations, while excluding new openings. The inner zone would be extended to include the Milton and Georgetown outliers. It is suggested that specific "extractive industry" areas be designated in the outer zone. This zoning policy would provide assurance, over the long term perspective that must be assumed with regard to a unique natural asset, that the area of most intense recreational use would be relatively undisturbed, and enjoy peace and quiet. At the same time, there would be no disruption of the established operations which represent a substantial part of the total industry: 13 of 14 in limestone (including dolomite); 11 of 12 in sandstone; 12 of 23 in sand and gravel; the only clay pit; and 3 of the 5 shale pits in the Escarpment region. This policy is made tenable by the availability of substantial, and in some cases superior resources, beyond the inner zone. Documentation of mineral resources will be provided in the background report on the extractive industry.



SCREENS

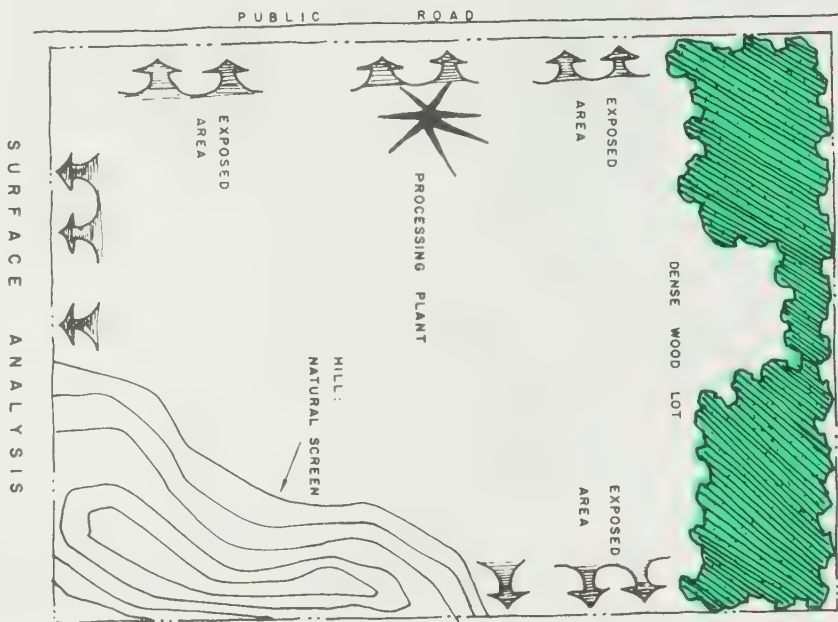


EXPAND LAND FORMS

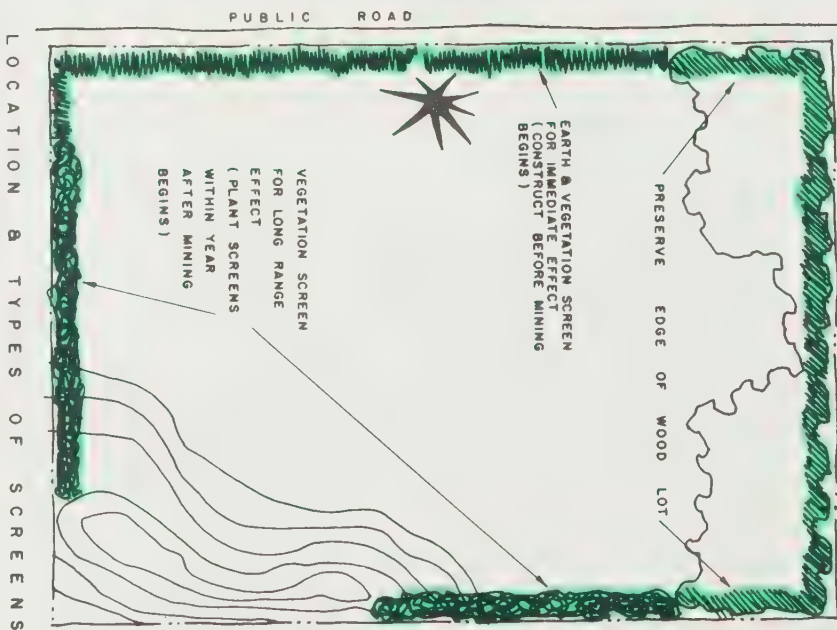
FILL IRREGULAR EXCAVATIONS

## USE OF OVERBURDEN





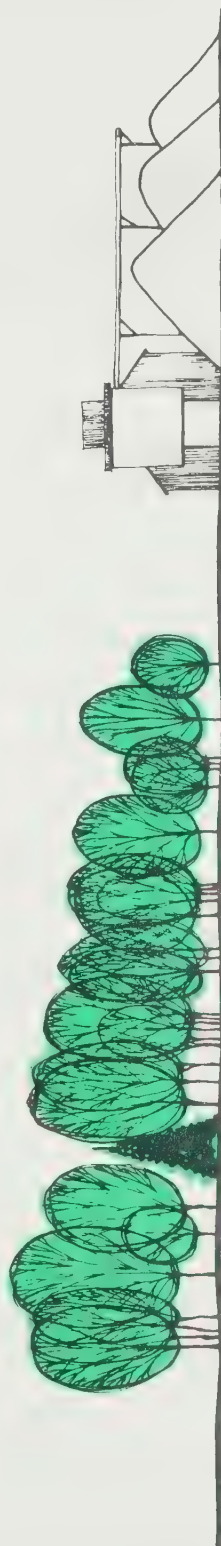
# SITE SCREENING PROGRAM







LOCATE PLANT BEHIND HILL



LOCATE PLANT BEHIND EXISTING WOOD LOT

### SITE CONSIDERATIONS FOR LOCATING THE PROCESSING PLANT

LOCATE PLANT IN PIT OR QUARRY



CONSTRUCT EARTH AND VEGETATION SCREEN



SITE CONSIDERATIONS FOR LOCATING THE PROCESSING PLANT

The proposals for fitting the extractive industry into the environment of the Escarpment represent a new positive philosophy of resource use. It embodies the idea of the multiple and sequential use of valuable resources, and of the continuity of landscape formation, from the opening up of a new pit or quarry to its restoration in a new, more permanent form. There are already in this Province a number of examples that give encouragement concerning the prospects of the "site development" approach. These include the Royal Botanical Gardens located in part in a mined gravel deposit; Belfountain Conservation Area in part of a former quarry, now used for swimming; a former gravel pit near Lobo, west of London, in which there is trout fishing; the Maple Honey-pot, a ski area near Maple developed in a property which was in part a gravel pit; and a number of other equally interesting transformations of extractive sites.

The foregoing proposals have been evolved in relation to the Escarpment area. Consideration should be given to their Province wide relevance in the follow-up work on this study.

#### 6.4 Approaches to an Administrative Solution

The administrative issues posed by the implementation of an Escarpment preservation programme, can be best appreciated in terms of the functions that need to be performed. At the same time since preservation is, by its nature, the beginning of a process leading to the effective use of the environment of the Niagara Escarpment, it is necessary to anticipate the functions inherent in the proposed programme on "the day after tomorrow". Functions, whether they be planning or park development, become meaningful in relation to the agencies that carry them out. Accordingly, it will be useful, in considering necessary administrative innovations, to have a look at the functions in relation to the public agencies now acting or empowered to act. These are related to Table 6(2).

The functions involved in an Escarpment preservation programme are, reading from the Table, #1, to #5, and #7 to #11 - all but #6, Development. The Table indicates that at the present time there are some thirteen public agencies, local, regional and provincial that are in some way involved in the leisure time use of land. Private groups such as the Bruce Trail Association and the Royal Botanical Gardens are for the moment not considered. No one agency assumes all the functions, but between them as a group they have something to do with all but two functions - the application of new preservation techniques, such as easements, and coordination with respect to the preservation of the Niagara Escarpment. Four types of agencies, within their own spheres of action, are particularly strong in the parks and recreation field: the Department of Lands and Forests, the Niagara Parks Commission, the Conservation Authorities, and the Municipal Councils. The Parks Integration Board has a key role with regard to the authorization of provincial expenditure for parks purposes.

Two major observations arise from the relationship of functions and agencies. The first is that there are many agencies which, pursuing their own legitimate purposes, will affect the destiny of the Escarpment. But at the present time it would not be possible to rely on any single agency to carry out the total Escarpment programme, either because certain functions are missing, or territorial jurisdiction is limited. The second observation is that an Escarpment preservation programme might be feasible through existing agencies, if there was greater focussing and integration of present functions, so that the regulatory powers of Municipal Affairs could complement the development functions of Lands and Forests, etc. Coordination in relation to the Niagara Escarpment, however, shows up as a conspicuous gap.

NIAGARA ESCARPMENT PROGRAMME - FUNCTIONS AND AGENCIES

PUBLIC AGENCIES											
Municipal Councils - Local and County											
Conservation Authorities											
Regional Development Commission											
Niagara Parks Commission											
Parks Integration Board											
Finance and Economics											
Municipal Affairs											
Agriculture											
Highways											
Tourism and Information											
Energy and Resources											
Lands and Forests											

FUNCTIONS

- Finance, acquisition and/or development
- Land acquisition
- Preservation, e.g. easements, etc.
- Regulation, Parks, Quarries, Land use
- Planning - recreation
- Development
- Management, administration
- Management, physical
- Information
- Coordination - Niagara Escarpment
- Resource Studies



The administrative approach presented in this report is designed to close that gap. A Niagara Escarpment Secretariat is proposed that will fit into the structure of government in the manner indicated on the accompanying chart. The underlying philosophy of the proposal is that the agencies now doing part of the job, can be relied upon to play an effective part in an Escarpment programme, provided that a group such as the proposed Secretariat were available as an expediting, technical advisory, liaison, and forward-looking planning group on matters affecting the use and development of the Niagara Escarpment.

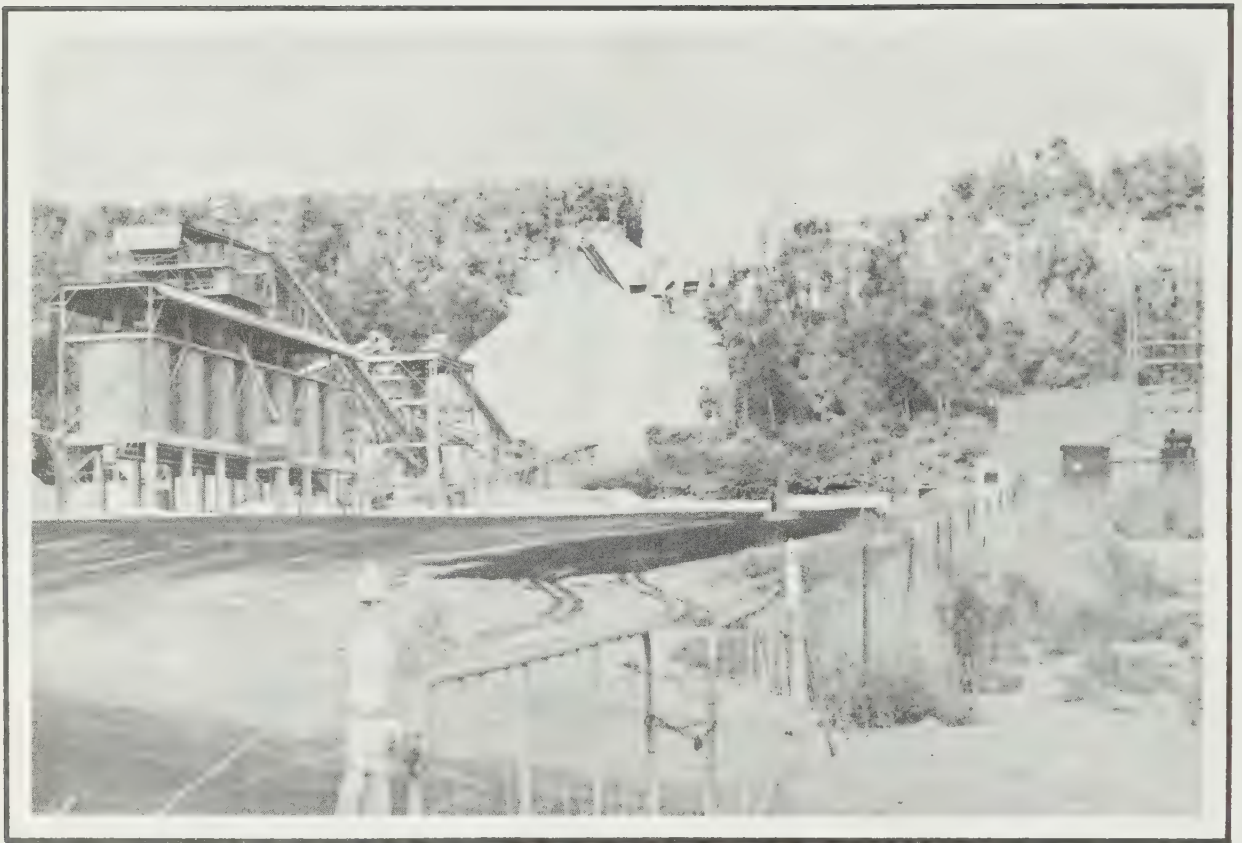
The need for a Secretariat becomes clear when consideration is given to the "agenda" or work programme that would arise in the implementation of the proposals of the Niagara Escarpment Study.

A broad strategy of preservation has been presented involving three levels of control. Carrying out action in each case will require some preparatory work. In the case of outright acquisition, there is the issue of which agency is the most appropriate in the various areas. An allocation of responsibility is suggested in the preceding chapter (in 5.4.1). This needs to be confirmed by consultation with each group. In the case of "selective control" areas, a choice has to be made between a number of alternatives - various types of easements, leasing, leaseback, etc. For the large areas designated for environmental control there is the need to establish specific districts - for example the environmental concept around Cedar Springs, where the objective is to preserve wooded landscape corridors along stream valleys in an area of high quality residential development, will be quite different from the concept in St. Edmunds in the Bruce, where the primary objective is to meet the rising tide of vacationers while maintaining the quality of a distinctive landscape. To apply the extractive industry proposals in the "outer zone" of the Study Area will require the initiation of detailed geological studies (or the application of those completed or under way), as a basis for designating extractive industry districts. What in fact is required are a series of highly practical investigations in each of the nineteen defined areas to turn the broad strategy into tactics that can be followed through - and followed through within the time scales of the priority ratings.<sup>1</sup>

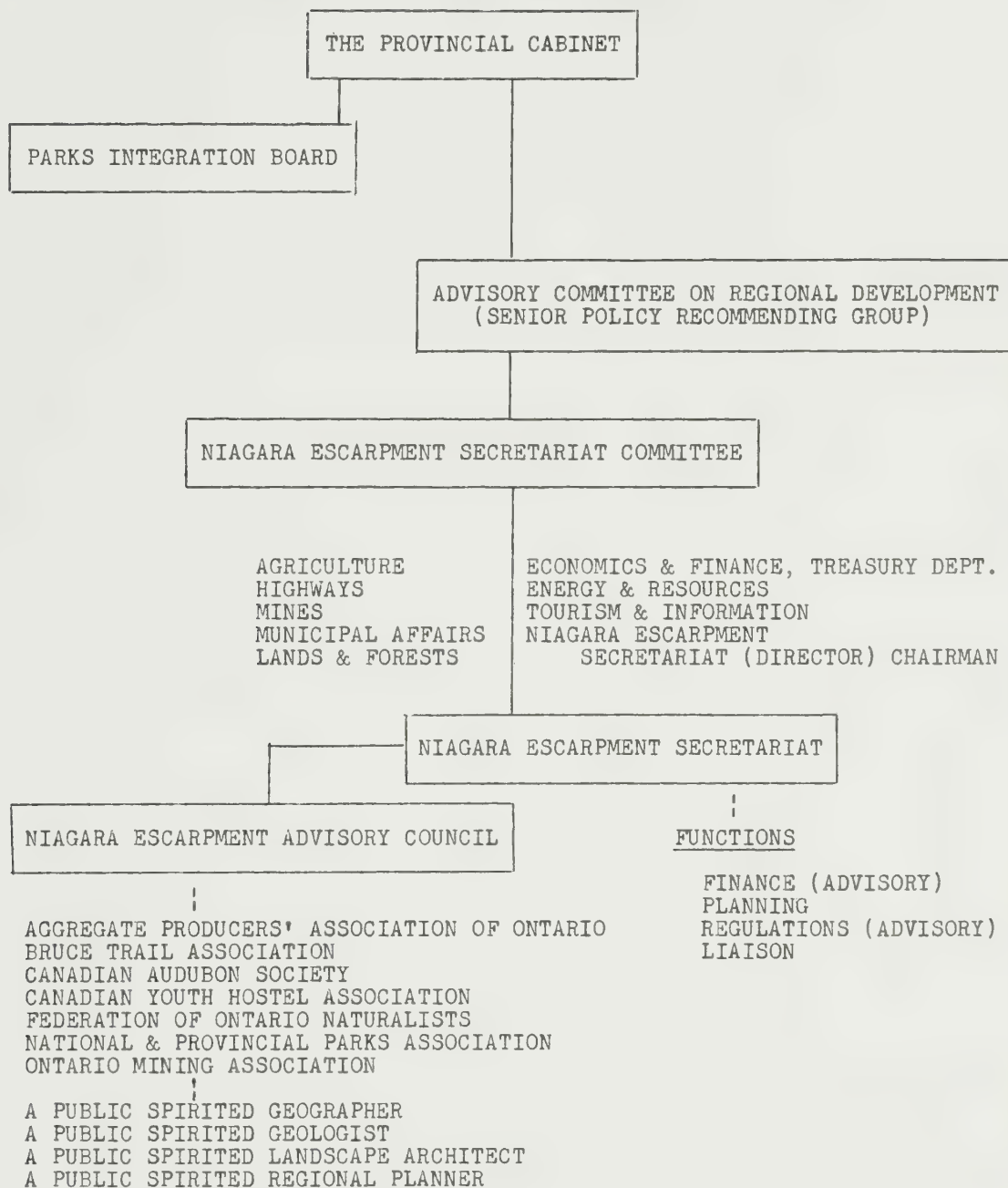
Another area of action is suggested by the recent Tri-County Scenic Drive proposal. That undertaking represents a start on the development phase of the Escarpment programme. It presents a concept of future parkway development, with emphasis on the circulation system. As a concept it arises out of the particular conditions of the Peninsula, and is not necessarily a precedent for the remainder of the Study Area. Nevertheless, attaining the benefits of the land that will be protected will require attention to the development phase - even if the concept that is evolved preserves many areas in their natural state. An indication of the possibilities along these lines was given in Chapter 5; particularly important is the development of a vehicular access network that is effective, but unobstrusive, and highly selective in the incidence of traffic on the different parts of the Escarpment.

The foregoing suggests a package of functions for the proposed Secretariat which involves finance, planning, regulations and liaison with agencies both in expediting projects and formulating new concepts. These functions would be exercised in an advisory way. For example, to keep an overview of land acquisition and control it would be advisory, through appropriate channels as set out in the chart, to the Parks Integration Board on suggested purchases, etc., by individual agencies.

The Secretariat would be closely linked with the operative departments of government through a Niagara Escarpment Secretariat Committee. Its membership would include the present members of the Sub-Committee on the Niagara Escarpment as well as two new members, the Department of Mines, particularly the Industrial Minerals Branch, and the Director of the Secretariat, who would act as Chairman.



*Dolomite Quarry in The Escarpment Face North of Milton*



The Committee would consider all issues related to the preservation, planning and development of the Niagara Escarpment and make recommendations to the senior administrative body on regional development, the Advisory Committee on Regional Development. Because of the great public interest in the Escarpment and the critical role of such organizations as the Aggregate Producers' Association, the Federation of Ontario Naturalists and the Bruce Trail Association, it is suggested that an Advisory Council be established for two-way communication with the Secretariat. Its membership would be along the line suggested in the chart.

The concept of the Secretariat is a liaison concept, an agency that lubricates the machinery of government for a central overriding purpose. To perform this function effectively it must be identified with all the relevant departments, but not be closely allied with any one of the major participants. There must be, to paraphrase a famous dictum, the appearance as well as the reality of neutrality. For this reason it is recommended that the Secretariat be established in the Treasury Department or the Prime Minister's Office.

#### 6.5 Three Provincial Initiatives

The first initiative is in the area of environmental control and regulation. The Planning Act of Ontario places emphasis on local responsibility for land use regulation, under provincial supervision. This is qualified by a recent amendment to The Planning Act which empowers the Minister of Municipal Affairs to exercise zoning powers for any Municipality and to supercede pre-existing municipal by-laws provided that the specific zoning provisions are in harmony with official plans, wherever they are in effect.

The proposals have pinpointed two areas where a comprehensive approach to zoning is essential for the preservation of the Escarpment - environmental control and extractive industry standards. It is obviously desirable that this zoning be applied consistently throughout the Escarpment region. In the case of the extractive industry - the Aggregate Producers' Association and the Ontario Mining Association have made a specific plea in this regard. While direct provincial action in land use regulation is not common, the Government has not hesitated to apply provincial codes where a demonstrable public interest is at stake. The most recent case is the Air Pollution Control Act, 1967.<sup>2</sup>

To fulfil this aspect of the programme it is recommended that the initiation of suitable regulations for environmental districts and extractive industries be assumed by a Niagara Escarpment Secretariat and that the zoning authority granted the Minister of Municipal Affairs under the recent amendment to Section 27(1)(a) be employed to provide for direct provincial administration of extractive industry standards within the Study Area. This action is suggested because the highly technical aspects of administering a code for the extractive industries, particularly in the style of site development planning, will not be equally within the capacity of all the municipalities. As a result the attempt to apply the standards locally could turn out to be discriminatory. The legislation should provide for municipal consent to extractive areas designated by a provincial agency.

Environmental control, through land use regulation, is more in the traditional field of zoning administration by local municipalities. To carry out the proposed Escarpment programme, it is recommended that (1) the Minister of Municipal Affairs, after suitable notice, exercise his prerogative under Section 27(1) of the Planning Act for those municipalities that have not passed zoning by-laws (17 at the last count); (2) the Minister require in the remainder of the area that municipalities adopt standards in harmony with the objectives of the proposed Escarpment



programme by a specific date, not later than half way in the priority period suggested for each delineated area (e.g. within two years for first priority areas); and if there is no compliance, assume direct responsibility as authorized by the amended Section 27(1)(a); and, (3) the review of all lot severances, that is subdivision control, be required in the region of the Niagara Escarpment. A recent amendment to The Planning Act now makes all lot severances, in areas where subdivision control by-laws are in effect, subject to review by the Minister of Municipal Affairs. By exercising his authority to establish subdivision control in areas where it is not provided by municipal by-laws, the Minister of Municipal Affairs could, by the combined effect of such action, and of the recent amendment, place the entire Escarpment area under subdivision control.

The success of "selective control" will depend to a great extent on the effectiveness of easements. This in turn will depend on the clear recognition of easements by Ontario statutes as a means for "the furtherance of public rights" in land, in the style of the Wisconsin legislation. At the present time, only the Game and Fish Act in Ontario provides for easement agreements - in that case for habitat control and fish and wildlife management purposes. What is required is an amendment to the Act governing land purchases for public purposes. The Public Works Act, will - (1) define types of easements, (2) indicate the purposes for which easements may be used, (3) define the rights of contracting parties, (4) identify the public agencies authorized to negotiate easement agreements, and (5) establish responsibility for the supervision and enforcement of easements.

The acquisition of private land for public park purposes may lead to a short term loss in municipal assessment and tax revenue.

It is further recommended that "cost" be interpreted to include provision for the short-run financial impact of parkland acquisitions on municipalities; the case of the municipalities in the Bruce where such a substantial part of the rural municipalities could be affected are only the most dramatic illustrations of a general problem. The approach of Wisconsin, referred to in Chapter 3, (3.4.2.2) reflects this principle and provides a model that can be studied in the search for a sound and equitable solution.

It is imperative that funds be exclusively allocated for the landscape preservation of the Niagara Escarpment, and that the Secretariat be charged with making recommendations to the Parks Integration Board on the disbursement of funds to implementing agencies for specific projects. This procedure would also apply to private organizations like the Bruce Trail Association, without precluding its continuing responsibility for the maintenance of the Trail. An arrangement of this nature appears to work very well for the Appalachian Trail, of which over 56% is held in state and federal ownership (1,134 miles), while the regional Trail Clubs look after maintenance. This would be entirely in the spirit of this report to encourage and assist, but not supplant, existing local, regional and voluntary agencies towards an effective programme of Escarpment preservation.

APPENDIX 1

INTERVIEWS CONDUCTED

## INTERVIEWS CONDUCTED

<u>Name</u>	<u>Position</u>
Dr. Peter Klopchic	Director, Travel Research Branch Department of Tourism & Information
Professor Philip Lewis	Department of Landscape Architecture, University of Wisconsin.
Walter Scott	Assistant to the Administrator, Division of Conservation, Department of Natural Resources, Wisconsin.
Stan DeBoer	Chief Planner, Research and Planning Bureau, Division of Conservation, Department of Natural Resources, Wisconsin.
Cyril Kabat	Research and Planning Bureau, Division of Conservation, Department of Natural Resources, Wisconsin.
Tom Lee	Division of Resource Development, Department of Natural Resources, Wisconsin.
William Sayles	Division of Resource Development, Department of Natural Resources, Wisconsin.
Homer Peck	State Division of Highways, Department of Transportation, Wisconsin.
Ralph Hovind	Department of Local Affairs and Development, Wisconsin.
Bill Goulding	Department of Urban and Regional Planning, (University of Toronto).
Mr. Lindsay	Clerk, Township of Clinton, Lincoln County.
A.R. (Bob) Schmidt	Technical Director, MTART Study.
W. Neville Keefe	General Manager, Georgian Bay Regional Development Council.
M. D. Kirk	North Grey and Region Conservation Authority.
Quimby Hess	Timber Branch, Department of Lands & Forests.
C. Russell Tilt	Secretary, Parks Integration Board, Department of Lands & Forests.
Conservation Authorities	Niagara Escarpment Conservation Authorities, Albion Hills, Conservation School.

<u>Name</u>	<u>Position</u>
Doug Reddington	General Manager, Central Ontario Regional Development Council.
Mrs. McArthur	Member for Nassagaweya Township CORDC.
Len McNeish	Member for Toronto Township CORDC.
Hon. Ray Connell	Minister, Public Works.
Bill Gray	Area Supervisor, Department of Public Works.
Dave McCammon	Hamilton Region, Department of Public Works.
M. T. Gray	General Manager, Niagara Parks Commission
J. N. Jackson	Staff, Brock University, St. Catharines.
T. Wilson	Staff, Brock University, St. Catharines.
J. McClellan	Staff, Brock University, St. Catharines.
E. Metlerick	Staff, Brock University, St. Catharines.
Jack Richards	Manager, Niagara Regional Development Council.
Mr. Skinner	President, NRDC.
Gerry Wolfram	St. Catharines Standard, Assistant Editor and President, Niagara Trail Association.
Dick Moskal	Burlington and Suburban Planning Board, Long-Range Planning Director.
Keith Bain	Supervisor, Official Plans & Zoning, Community Planning Branch, Department of Municipal Affairs.
Milt Farrow	Supervisor, Subdivisions, Community Planning Branch, Department of Municipal Affairs.
John Darker	Research & Special Studies Division, Department of Municipal Affairs.
Ray Dickie	Research & Special Studies Division, Department of Municipal Affairs.
Sylvia Davis	Research & Special Studies Division, Department of Municipal Affairs.



<u>Name</u>	<u>Position</u>
Ben Vanderbrug	Field Officer, Hamilton Region Conservation Authority.
Dave Murray	Field Officer, Hamilton Region Conservation Authority.
Peter Addison	Chief, Parks Branch, Department of Lands & Forests.
Jim Keenan	Recreational Land Use Planner, Parks Branch, Department of Lands & Forests.
Dr. Eugene Mattyasovsky	Assistant Professor, Division of Town and Regional Planning, University of Toronto.
Gerry Harsch	Planner, Richard Strong Associates Ltd.
Phil Remington	Recreational Land Use Capability Study, Department of Lands & Forests.
Dr. Angus Hill	Recreational Land Use Capability Study, Department of Lands & Forests.
Bruce Trail Association	
Gavin Henderson	Executive Director, National and Provincial Parks Association.
Bill McLean	Conservation Areas Manager, MTRCA.
Dave Boggs	Recreation Planner, Conservation Authorities Branch, Department of Energy & Resources Management.
Clive E. Goodwin	Executive Director, Conservation Council of Ontario.
George Bently	Secretary-Treasurer, Credit Valley Conservation Authority.
Mac Coutts	General Manager, Grand Valley Conservation Authority.
Alan F. Coventry	Professor Emeritus, University of Toronto, Zoology Department.
S.C. Cosby	General Manager, Aggregate Producers' Association of Ontario.
R. L. Whiting	Nelson Crushed Stone, Division of King Paving & Materials Limited.
G. Armstrong	General Manager, Industrial Minerals of Canada.

<u>Name</u>	<u>Position</u>
Dr. D. F. Hewitt	Chief, Industrial Minerals Section, Ontario Department of Mines.
G. R. Guillet	Geologist, Industrial Minerals Section, Ontario Department of Mines.
R. E. Roberts	Planning Director, Burlington & Suburban Planning Board, Burlington.
R. Bailey	Commissioner of Planning and Secretary- Treasurer, City Planning Department, Hamilton.
Alec Greaves	Secretary-Treasurer & Planning Director, Niagara Falls & Suburban Planning Board.

APPENDIX 2

REVIEW OF LEGISLATION RELATING TO LAND USE  
REGULATION AND ACQUISITION

REVIEW OF LEGISLATION RELATING TO LAND USE  
REGULATION AND ACQUISITION

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No.	Year	Chapt.	Title	Agency	Sec.	Comments
1.	1960	23	Assessment Act	DMA	14	- the assessment of land with an easement
					(1)	- that as the servient tenement is subject to the easement - assessment shall be reduced accordingly
					(3)	- runs with the land
					(4)	- a restrictive covenant is deemed to be an easement
2.	1960	62	The Conservation Authorities Act	E & RM	17	- confers the power to plan, and to take land, to enter agreements and to develop acquired land for forestry, recreation and water conservation
					20	- regulatory power over water use
					38 & 39	- may raise money by municipal levy for capital and administrative purposes
					42	- The L.G. in Council may make a grant, the Minister may make a grant to \$10,000 in any one year
	1960/1961	10	Amendment		20	- regulatory powers
	1961/1962	16	Amendment		20	- regulation of building on flood lands
	1962/1963	20	Amendment		20	- regulation of building on flood lands
3.	1966	44	The Department of Tourism and Information Act	T & I	3	- objectives, to preserve and develop tourist and recreational attractions
					10	- historical parks are under control and management of the Minister, land is acquired under the Public Works Act.



No.	Year	Chapt.	Title	Agency	Sec.	Comment
4.	1962	43	The Expropriation Procedures Act	All Agencies	1	- land includes any estate, term, easement, right or interest in, to, over or affecting land
	1966	53	Amendment		1	- conservation authorities, hospitals and universities need the prior authority of a judge
5.	1960	153	The Forestry Act	L & F	2	- Agreements may be made of not less than 20 years with any land owner - Grants may be made to municipalities and conservation authorities entering agreements
					5	- declaration of a private forest reserve
	1967	29	Amendment		1	- "forestry purposes" includes the production of wood and wood products, provision of proper environmental conditions for wild life protection against floods and erosion, recreation and production of water supplies - Agreements to date have been with public corporations, though agreements with private timber companies are being considered.
6.	1961/ 1962 1967	48 30	The Game & Fish Act Amendment	L & F	1 (3)	- The Minister may enter into an agreement with a land owner and may transfer the hunting and fishing rights to the Crown. The Agreement may allow management by L & F including; habitat improvement, protection measures, stocking, fencing, signing, and other management practices.

No.	Year	Chapt.	Title	Agency	Sec.	Comments
7.	1960	171	The Highway Improvement Act	DHO	7 27 34	- land acquisition and taking - construction, maintenance and operation of work, e.g. road-side parks - Development controls on lands bordering highways
8.	1960	249	The Municipal Act	DMA	377 (63) (64) (65) (66)	- a municipality may pass by-laws - acquiring land for parks including the taking of land - accepting and managing land dedicated to parks outside the municipality - agreement with other municipalities to establish a park - granting aid to another municipality for a park
9.	1960	262	The Niagara Parks Act	NPC	3 4 6 19	- powers and duties, may lay out, plant and enclose parks, development of parks, may receive grants, gift bequests of property and any interest in the property - may borrow money, loans guaranteed by Province - may enter and expropriate land under the Public Works Act - may make regulations for protection and preservation from damage of the property of the NPC.
10.	1967	65	The Ontario Heritage Foundation Act	T & I	7 8	- objects, may acquire and preserve property of historical and architectural interest, and to aid municipalities in this regard - may acquire property

No.	Year	Chapt.	Title	Agency	Sec.	Comments
						by purchase or donation and to enter into agreements, power to borrow money, guaranteed by the Province
					12	- exemption from taxation
					14	- the Minister may make grants.
11.	1960	77	The Ontario Parks Integration Board	PIB	7	- function to establish integrated policies of management and development of all provincial parks (also parks receiving Provincial grants). Board deals with land acquisition and with park regulations.
12.	1960	285	The Park Assistance Act	E & RM	2	- purpose, parks are to be complementary to provincial parks
					3	- grants for acquisition and development of an approved park (an approved park must charge admission and include overnight camping among other items)
					4	- municipalities may apply and several municipalities may co-operate
					10	- regulations may be made
	1966	109	Amendment		1	- acquisition and development grants up to \$100,000 or 50% - \$25,000 or 50% for land acquisition alone
13.	1960	296	The Planning Act (This Act is examined in greatest depth elsewhere).	DMA	28 (5)	- 5% of land of a subdivision must be conveyed for public purposes except highways, or
					(8)	- cash payment equal to 5% of land value be made
					(10)	- monies to be held in a special account for

No.	Year	Chapt.	Title	Agency	Sec.	Comment
						purchase of land for public purposes.
					1	- <u>Official Plan</u> , "for
				(h)		health, safety and convenience or welfare of the inhabitants"
				19		- acquisition and disposal of lands for official plan purposes
				(1)		
				30		- Restricted Area By-laws
				(1)		
				1		- restricting use of land
				6		- prohibiting pits and quarries
				26		- areas of subdivision control
				(1)		
				C		- exclusion of land ten acres or more from subdivision control
				3&4		- Planning Boards, establishment of board and composition
				10		- duties, re planning
				(a) to		
				(f)		
				11		- adoption of the plan
				27		
				(1)		
				(9)		- Power of Minister re zoning and subdivision control, where local by-laws are not in effect.
14.	1960	314	The Provincial Parks Act	L & F	2	- purpose, parks are to be used for healthful enjoyment and education, and maintained for future generations.
					3	- land acquired under the Public Works Act
						- provincial park land is separated from a municipality
					6	- grants, gifts and bequests may be accepted
15.	1960	324	The Public Lands Act	L & F	14	- may set aside lands for research purposes
					15	- may zone public lands
	1960/1961	81	Amendment		2	- lands may be acquired under the Public Works Act
				(43C)		



No.	Year	Chapt.	Title	Agency	Sec.	Comment
16.	1960	329	The Public Parks Act	DMA	1	- establishment of a municipal Board of Park Management
					11	- Board may pass by-laws
					12	- real and personal property may be given to the municipality and in trust
					13	- the Board may acquire land up to 2,000 acres for 100,000 people, 1,000 acres or lesser cities or counties, 500 acres for towns, villages and townships
					14	- extra lands of the municipality may be under the Board's control
					18	- raising of monies, rate at one or two mills, debentures may be issued for a term of up to forty years, are considered a lien on the land
					19	- regulations may be made
17.	1960	338	The Public Works Act. (This Act applies to land required by L & F NPC, T & I)	DPW	1	- Land includes any estate, term, easement, right or interest in, to, over or affecting land
					13	- may take land for the purposes of Ontario or the use or purposes of any department of Government
18.	1941	75	Royal Botanical Gardens Act	RBG	3	- description of powers and type of development, may acquire lands in Hamilton City, Ancaster, Beverly, Barton, West Flamboro and Saltfleet
						- may accept gifts
						- agreements with Hamilton Board or Parks Management for funds may raise money by debentures (the RBG also receives provincial government grants).
					8	- also has powers under The Public Parks Act.

No.	Year	Chapt. Title	Agency	Sec.	Comment
19.	1960	406 The Trees Act	L & F	1	- purposes include recreation, etc., as in the Forestry Act
				4	- county by-laws restricting tree cutting, (for commercial purposes only)
				7	- counties may acquire forests or enter into agreements for management
					- debentures not to exceed \$25,000.
				8	- municipality of 10,000 or more has same rights as a county
				9	- township may enter into agreements with land owners for forest conservation, exemptions from taxation may be made if used as set out in the agreement.
20.	1960	432 The Wilderness Areas Act	L & F	2	- public lands may be set aside as a wilderness area for preservation in its natural state, for research and educational activities, for protection of flora and fauna, for improvement; having due regard to its historical, scientific or recreational value, or other purposes.
				3	- size limit 640 acres
				4	- land acquired under Public Works Act
				7	- regulations may be made and may prohibit access.
21.	1966	161 The Woodlands Improvement Act	L & F	1	- forestry purposes as in the Forestry Act
				2	- Minister may make an agreement with private land owners for forest management purposes.

APPENDIX 3

CONSERVATION AND SCENIC EASEMENTS

A RESUME OF SOME KEY ELEMENTS IN AN EASEMENT PROGRAMME  
BASED ON EXPERIENCE IN THE UNITED STATES

A RESUME OF SOME KEY ELEMENTS IN AN EASEMENT PROGRAMME  
BASED ON EXPERIENCE IN THE UNITED STATES

I Definition

An easement is the purchase of part of the rights and privileges in land. It results in a division of the rights and privileges in land between the private and public sector. An easement may be affirmative in that it allows public access to the land or permits a public agency to exercise management controls. Easements may also be negative in that they can prohibit the owner of the land from carrying out certain development possibilities.

II Types of Easements and Rights Acquired

There are three main types of easements, each of which involves the acquisition of essentially different rights in land.

(a) Scenic Preservation Easements: The primary purpose of an easement may be to preserve scenic beauty. In a scenic easement, the land owner is prevented from changing land use other than to uses compatible with public open space goals. The property owner is restricted from erecting buildings other than those necessary to the permitted uses of the land. The easement may also prohibit the cutting of mature trees or bushes or other vegetation except when it conforms to good forestry practice.

(b) Management Easements: A management type of easement allows a public agency access to the land in order to carry out such management practices as removing unsightly objects, thinning trees, and planting of shrubs. Easements may also provide access for game management purposes.

(c) Public Access Easements: An easement may allow public access to private land for hiking, viewing, hunting or fishing.

An easement may have some or all of the above rights in the easement deed.

III Term of Easement

Wherever possible an easement should be obtained in perpetuity. The important advantages of obtaining the easement in perpetuity are:

- (1) the public agency has a greater degree of control over the use of the land;
- (2) the property owner has a better case for a lower assessment value in that the development potential of his land has been totally alienated.

IV Public Benefit

A number of clearly defined public benefits can be attained through the utilization of scenic and conservation easements. A number of benefits are summarized in the underlying list:

- (1) The public may, by purchasing an easement, have full development control over the land. Thus, a scenic natural resource can be effectively protected as a public asset.



- (2) The public may also have management control over the land for conservation purposes. For example, development on erodable slopes and the removal of vegetation can be prevented by the acquisition of management easements.
- (3) Easements can provide public Access to land for a variety of recreational purposes.
- (4) Wisconsin experience has shown that the cost of easement acquisition is generally lower than the cost of fee simple acquisition. Although easement costs may sometimes approach the fee, the acquiring agency incurs only minimal enforcement expenses in place of substantial annual management and maintenance costs.
- (5) In contrast to fee simple acquisition, the use of easements maintains the present use of the land, does not displace land owners, and helps preserve community tranquility. The owner remains on the property, continuing his present form of management. He also remains on the municipal tax role, although his taxes may be reduced by the amount of the tax on the value of the rights relinquished in the easement. Thus, the application of the easement technique represents a viable alternative that can overcome some of the increasing resistance to fee simple.
- (6) By acquiring an easement a public agency may in effect hold open an option for the public at some future date to acquire the fee.
- (7) There simply is not enough money to preserve all of the land necessary to maintain Ontario's best quality landscapes in some sort of natural condition through fee simple acquisition. Therefore, it is important that easements be used to secure and acquire positive benefits for the public where it is not necessary to own all the property rights.

## V Private Benefits

The property owner by selling an easement to a public agency obtains the following benefits:

- (1) a payment for the easement in the form of a present cash sum;
- (2) a possible reduction in his taxes as a result of giving up certain rights in the land. (This appears to be in accordance with the Assessment Act, R.S.O. 1960, Chapt.23, Section 14.)
- (3) The owner may also benefit, depending upon the nature of the easement, by obtaining professional management services. For example, professional forest management service is available under The Woodlands Improvement Act.
- (4) The property owner also obtains a degree of stability in use, in that he is no longer under pressure to change the use of his land by development pressure and higher taxes.
- (5) A recent market analysis of Wisconsin's easement programme revealed that the scenic easement was not a factor in the owners decision to buy or the price he paid. Indeed, the

property owner may benefit in the long-run through an increase in the value of his lands because the scenic amenity has been preserved. Furthermore, adjoining land holdings could increase in value by being next to a permanent open space area.

## VI General Guidelines for a Successful Easement Programme

Experience in the United States has pinpointed several important requirements for a successful easement programme. Some of the requirements are listed below:

- (1) There is a need for a statement of the public intent as to the purpose of maintaining open space both in legislation and by means of a land use plan. In this way, easements are given a base in legislation for court actions that may follow the taking of an easement.
- (2) A readily understood plan or programme for public information on easements is critical. The fundamental problem is to be able to explain fully the purpose and nature of an easement to the land owner. Full disclosure of the nature of the easement, how it fulfils specified public purposes and how it effects adjoining land will ensure the owner's co-operation in abiding by the easement.
- (3) Coordination of efforts between agencies and levels of government is essential.
- (4) The easement document must be carefully developed and spelled out in sufficient detail to protect all rights in land which need to be preserved.
- (5) Where possible the acquisition agency should be the same as the management and enforcement agency.
- (6) Carefully worded enabling legislation and scenic easement deeds are essential dual foundations for a successful scenic preservation programme.
- (7) The scenic easement is only one of a whole range of legal tools available to preserve outdoor amenities. It is most effective when used in combination with other levels of control, since each tends to reinforce the other.

APPENDIX 4

PROPOSALS FOR AN ENACTMENT TO REGULATE SURFACE MINING  
IN THE NIAGARA ESCARPMENT STUDY AREA

## Introduction

Surficial mining of non-metallic minerals presents a set of particular problems related to the preservation of naturally occurring geomorphic aspects of the study area. Of special note is the Escarpment face and its scenic value which is unique in Southern Ontario. Also of significance is the hummocky kame moraine (the Oak Ridges Moraine) which overlaps the Escarpment.

Surficial mining can also generate a set of problems of a more general nature which, while they can apply to operations in the study area, are the result of the nature of the process of surficial mining wherever it occurs.

Any enactment should encompass both sets of problems in order to preserve the scenic qualities of the Escarpment study area as well as to ensure the compatibility of on-going operations with other land-uses in the study area.

For regulatory purposes the study area can be considered to consist of three zones (Figure 1): an inner zone two miles wide, one mile either side of the Escarpment face (or of a line to designate its approximate location when the face is buried by glacial debris); and two outer zones, one on each side of the inner zone extending to the outer edge of the study area.

The inner zone is most significant from the viewpoint of the recreational potentials of the Escarpment and requires special attention in any legislation which might come into effect.



## Special Provisions for the Inner Zone

The inner zone is most critical because of the natural scenic qualities of the Escarpment face, lookout points and recreational uses and possibilities which exist within it. Therefore, special consideration should be given to ensuring the preservation of these features. At the same time, prior rights of on-going extraction operations should be respected. The following suggested provisions are designed to meet these two ends.

### A. Special Provisions

1. New openings in, or breaches of, the face of the Escarpment are not permitted.
2. New openings within one mile on both sides of the Escarpment face (or a line established to indicate its approximate position when it is buried by glacial debris) are not permitted.
3. New openings in the Milton and Georgetown outliers are specifically not permitted.
4. Operations active at the time of passage of this enactment are, in future, to leave an unmined strip one hundred (100) yards wide between the face of the escarpment (or a line established to indicate its approximate position when it is buried by glacial debris) and the excavation being made.
5. Operations active at the time of passage of this enactment are permitted to extend their excavation to the limits of the mineral bearing property to which they hold title when the enactment comes into effect, and in which mining is taking place at that time.

### B. Definitions

1. Here an "opening" means the removal of any earth material. Definitions differ, but the intent is that topsoil, subsoil, overburden, limestone, sandstone and shale are the main earth materials under consideration. In a final enactment, cognizance shall be taken of the possible desirability of allowing certain kinds of new openings, for example, swimming pools, septic tanks, basements for new homes, farm ponds and other possibly desirable excavations.
2. A "breach" is a cut into the face of the Escarpment.
3. An "active operation" means an operation which has on site some kind of substantial investment in plant and equipment and is a "going concern". Implied is the cessation of the opening of numerous small, short term operations which scar the landscape and damage the public image of the extractive industries in general.

## General Provisions

A large number of problems can arise because of the existence of an extraction site. Any enactment should be structured to take into consideration a wide variety of possibilities, and should recognize that not all provisions necessarily apply at every site.

In relation to the recreational uses and potentials of the study area, provisions relating to the appearance of an active operation, the intended post-extraction use, safety in and around the operation and possible nuisances arising from the operation are of importance. In order that future conflicts do not occur between recreational and extractive uses of lands in the study area, it is important that exact descriptions of properties currently being mined are available and that exact descriptions of properties held for extraction in the future are known.

At present where zoning legislation exists, extractive activity is generally a permitted use within agricultural zones. In the outer zones of the study area specific areas should be set aside for extractive activity in the future. The designation of such areas will require detailed investigation of existing natural conditions.

The following suggested general provisions should apply to all operations within the study area.

A. Registration of Properties

1. An annual licence, issued by the appropriate authority at a nominal fee, shall be required as a prerequisite to the mining of any earth materials. Issuance of the licence shall be contingent upon the filing of exact descriptions of the property in which extraction will take place, along with exact descriptions of all properties held for future extractive use. Renewal of a licence shall be contingent upon compliance with the performance standards prescribed below.

B. Performance Standards

1. Site development plans

- a. Any new operations commencing in the outer zones of the study area shall be required to file a site development plan. Extraction shall begin only after acceptance of the development plan by the appropriate authority (ies).
- b. After due notice, a similar site development plan shall be required of operations active at the time of passage of this enactment.
- c. The purposes of site development plans shall be to detail the manner in which the performance standards prescribed below will be implemented and to show the use(s) intended for the site during and after extraction.

2. Visual Impact

- a. Every effort shall be made to use naturally occurring vegetation and landforms to screen the extraction site and extraction and processing equipment and stockpiles from the public view.
- b. Where necessary boundary mounds or other suitable disposition of overburden shall be used as vision screens, and shall be appropriately planted with grass and trees, tended and kept free from weeds and waste.
- c. To enhance the visual appearance of extractive operations and to improve the value of the site when extraction ceases, a

progressive programme of planting of grasses, trees and shrubs shall be part of the site development plan.

- d. To ensure the undertaking and completion of site development programmes an operator shall be required to post a performance bond or to remit a similar amount to an industry controlled site development fund if such exists, the amount of the bond or remittance to be set from time to time and based on tonnages of material extracted. Any operator fulfilling the requirements of his development programme can be exempt from this provision.

### 3. Safety

- a. Every extraction site shall be suitably fenced (suitable fencing will have to be defined)
- b. Extraction sites shall be posted with signs warning of possible dangers. (Size of sign, spacing of signs and possible wordings will have to be defined).
- c. Entrances to extraction sites shall be provided with suitable gates which shall be locked when the operation is dormant.
- d. Entrances shall be located so that they are clearly visible for about five hundred feet to traffic on the roadway on which they are located.
- e. Nearby residents shall be informed of times when blasting is to occur, if blasting is necessary in the extractive process.
- f. Passing traffic shall be warned by posted signs showing times when blasting may occur, if blasting is necessary in the extractive process.

### 4. Removal of Earth Materials

- a. Topsoil, subsoil and other overburden shall only be removed from the extraction site in compliance with the provisions of an approved site development programme.

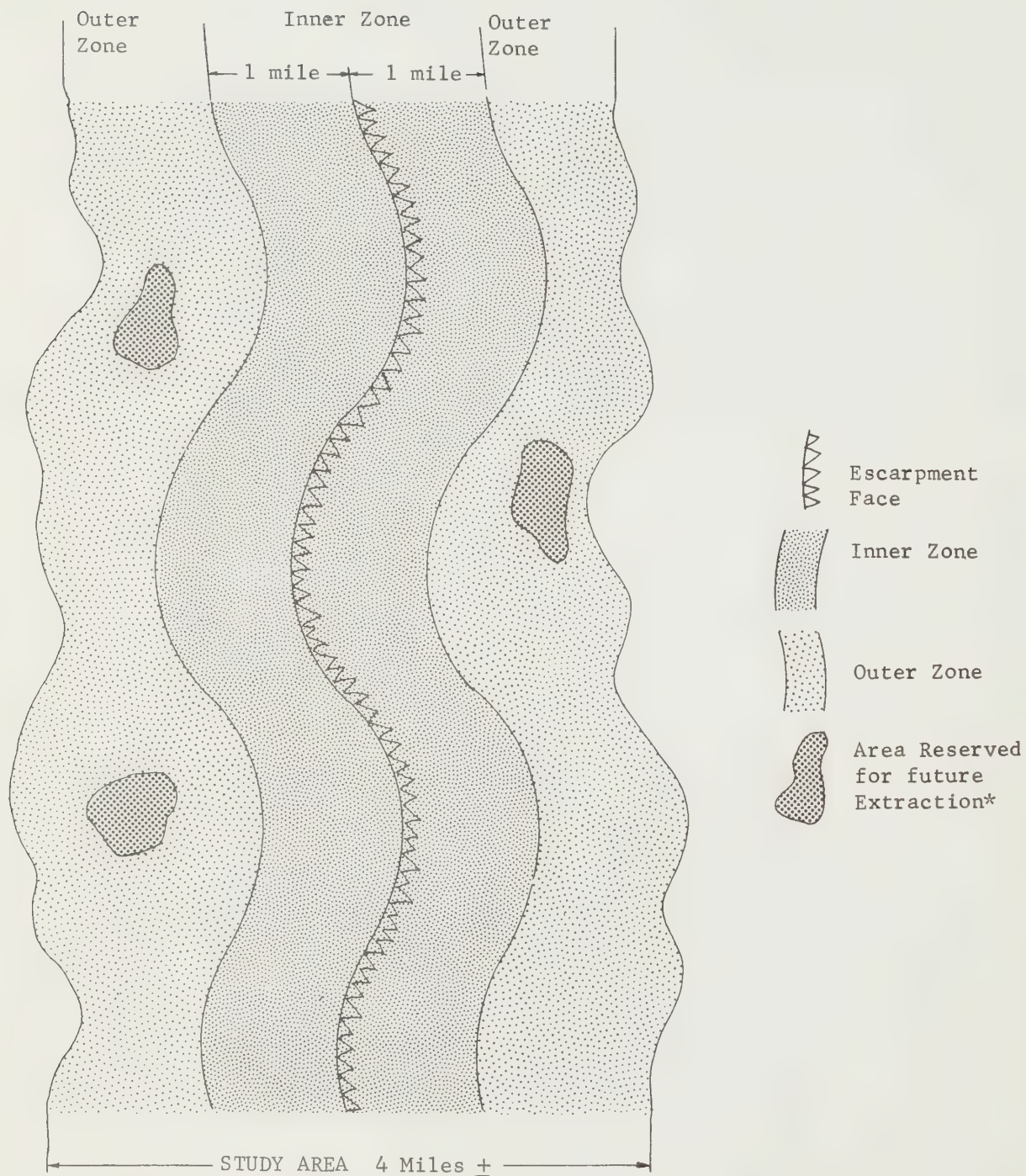
### 5. Miscellaneous

- a. No extraction site shall be put in any use other than extraction and primary processing except as agreed to in the site development plan.

(The intent here is to permit or exclude such uses as locating asphalt plants, redi-mix plants or other secondary processing facilities on site, and to permit or exclude the disposal of waste material not resulting from the extraction operation.)

- b. Roadways within the extraction site shall be treated with some dust-eliminating material.
- c. Blasting, if necessary, shall occur only at times (to be specified) when neighbouring property holders will not be disturbed.

# STUDY AREA EXTRACTIVE ZONES DIAGRAMMATIC



\*Hypothetical areas zoned for the future use of the extractive industries.



(It is of note that "blasting" has a recreational value. Open pit mines in the vicinity of Asbestos Quebec, for example, schedule tours so that the on-lookers can observe the blasting process.)

- d. When a depression is being created by the extraction of materials, minimum distances of the rim of the excavation from roadways, adjacent properties and structures on the extraction site shall be specified in the development plan.
- e. In addition to the provisions above, site development plans shall, where applicable, include provisions regulating:
  - i angle of slope of faces no longer being worked
  - ii disposal of water used in processing materials
  - iii disposal of waste materials other than earth materials
  - iv depth of excavation in relation to watertable  
(Intent here is that if excavation penetrates watertable it should be carried on to a sufficient depth to create a usable body of water, or it should not penetrate the watertable.)
- f. In localities with adjacent urban development, the locus of work shall be regulated. (Intent here is to curtail noise during the night.)
- g. Rights of inspection of an extraction site are guaranteed to the appropriate authorities.
- h. Lands held on which little or no extraction takes place but intended for extractive operations in the future shall be so posted.

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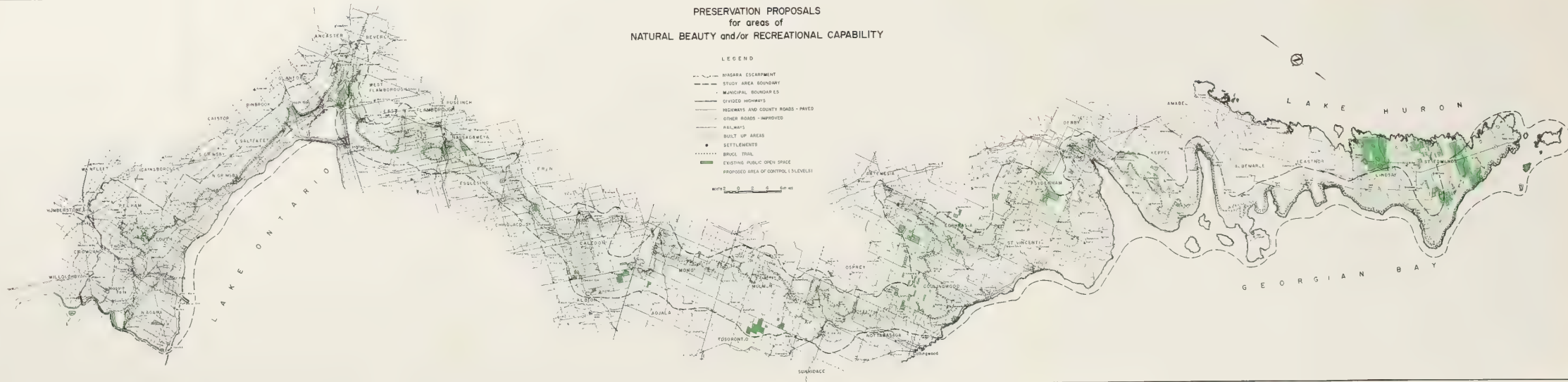


# PRESERVATION PROPOSALS for areas of NATURAL BEAUTY and/or RECREATIONAL CAPABILITY

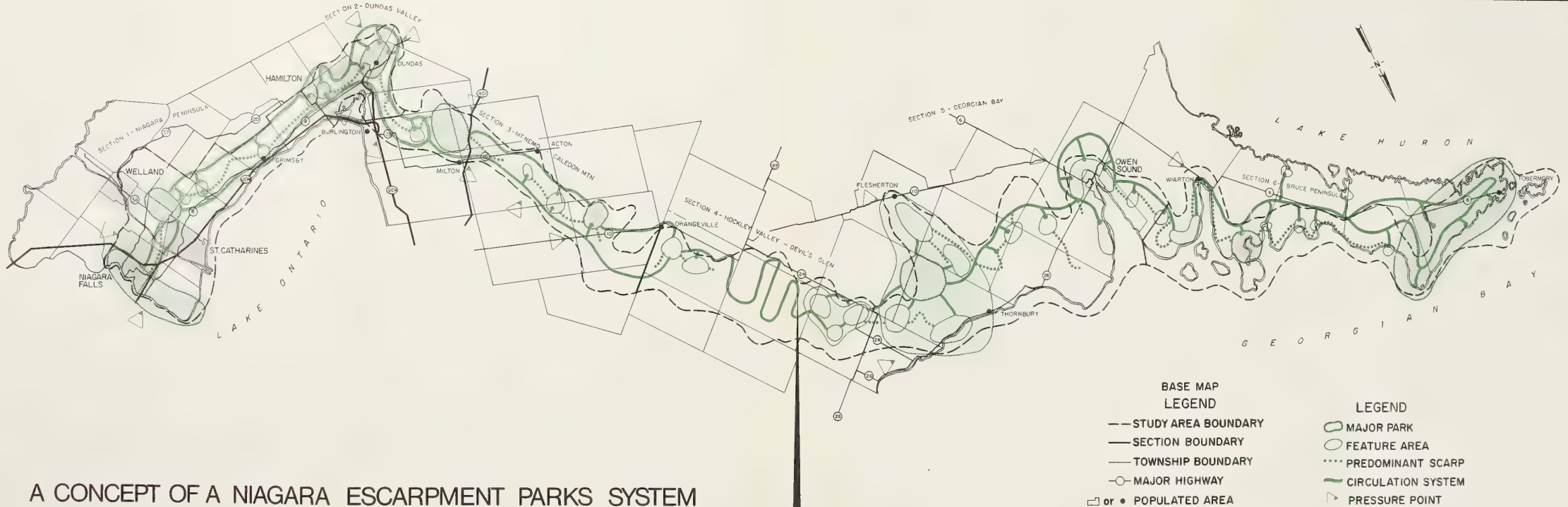
## LEGEND

- NIAGARA ESCARPMENT
- - - STUDY AREA BOUNDARY
- - - MUNICIPAL BOUNDARIES
- == DIVIDED HIGHWAYS
- == HIGHWAYS AND COUNTY ROADS - PAVED
- - - OTHER ROADS - IMPROVED
- RAILWAYS
- BUILT UP AREAS
- SETTLEMENTS
- BRUCE TRAIL
- EXISTING PUBLIC OPEN SPACE
- PROPOSED AREA OF CONTROL (LEVELS)

Scale 0 2 4 6 8 10







A CONCEPT OF A NIAGARA ESCARPMENT PARKS SYSTEM

























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